ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[AD-FRL- -]

RIN: 2060-AE37

National Emission Standards for Hazardous Air Pollutant Emissions from the Production of Acrylonitrile Butadiene Styrene (ABS) Resin, Styrene Acrylonitrile (SAN) Resin, Methyl Methacrylate Acrylonitrile Butadiene Styrene (MABS) Resin, Methyl Methacrylate Butadiene Styrene (MBS) Resin, Polystyrene Resin, Poly(ethylene terephthalate) (PET) Resin, and Nitrile Resin (Group IV Polymers and Resins)

AGENCY: U. S. Environmental Protection Agency (EPA).

ACTION: Proposed rule and notice of public hearing.

SUMMARY: The proposed rule would reduce emissions of organic hazardous air pollutants (HAP) from existing and new facilities that manufacture one or more of the following Group IV polymers and resins: acrylonitrile butadiene styrene (ABS) resin, styrene acrylonitrile (SAN) resin, methyl methacrylate acrylonitrile butadiene styrene (MABS) resin, methyl methacrylate butadiene styrene (MBS) resin, polystyrene resin, poly(ethylene terephthalate) (PET) resin, and nitrile resin. The EPA is in the process of developing standards for a wide range of types of polymer and resin production facilities. The polymers and resins covered by this proposed rule are thermoplastics, and with two exceptions, use styrene as the dominant feedstock. These thermoplastics are basically intermediate products used to produce automotive plastic parts, appliances and appliance parts, housewares, polyester fibers, packing and containers, soft drink bottles, and toys. In the production of

thermoplastics, a variety of organic HAP are used as monomers or are created as by-products. The organic HAP emitted by the facilities covered by this proposed rule include styrene, acrylonitrile, butadiene, ethylene glycol, methanol, acetaldehyde, and dioxane. The proposed rule is estimated to reduce organic HAP emissions from existing facilities by 11,750 megagrams per year (Mg/yr). The emission reductions achieved by these standards, when combined with the emission reductions achieved by other similar standards, will achieve the primary goal of the Clean Air Act (Act) as amended in 1990, which is to "enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population".

The proposed rule implements section 112(d) of the Act, which requires the Administrator or Administrator's designee, hereafter referred to as Administrator, to regulate emissions of HAP listed in section 112(b) of the Act. The intent of this rule is to protect the public by requiring the maximum degree of reduction in emissions of organic HAP from new and existing major sources, taking into consideration the cost of achieving such emission reduction, and any non-air quality, health and environmental impacts, and energy requirements.

Under today's action, the EPA is also proposing to revise subpart DDD of 40 CFR part 60 by removing all references to polystyrene and PET facilities contained therein. This proposed action is being taken because today's proposed rule would supersede the requirements specified in subpart DDD of 40 CFR part 60 for polystyrene and PET facilities.

Finally, under today's action, the EPA is proposing to add nitrile resin production to the source category list under section 112(c) of the Act and to the source category schedule under section 112(e) of the Act with a promulgation date no later than November 15, 2000.

DATES: Comments. Comments must be received on or before **[insert date 60 days after publication in the Federal Register].**

Public Hearing. If anyone contacts the EPA requesting to speak at a public hearing by **[insert date 3 weeks after publication in the Federal Register]**, a public hearing will be held on **[insert date 30 days from date of publication]** beginning at 10 a.m. Persons interested in attending the hearing should call Ms. Marguerite Thweatt at (919) 541-5607 to verify that a hearing will be held.

Request to Speak at Hearing. Persons wishing to present oral testimony must contact the EPA by **[insert date 3 weeks after publication]** by contacting Ms. Marguerite Thweatt; Organic Chemicals Group, (MD-13), U. S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-5607.

ADDRESSES: Comments. Comments should be submitted (in duplicate, if possible) to: Air Docket Section (LE-131), Attention: Docket No. A-92-45, U. S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460. The EPA requests that a separate copy also be sent to the contact person listed below. The public hearing, if required, will be held at the EPA's Office of Administration Auditorium, Research Triangle Park, North Carolina.

The docket is located at the above address in room M-1500, Waterside Mall (ground floor), and may be inspected from 8 a.m. to 4 p.m., Monday through Friday; telephone number (202) 382-7548. A reasonable fee may be charged for copying docket materials.

FOR FURTHER INFORMATION CONTACT: For information concerning the proposed rule, contact Mr. Leslie Evans at (919) 541-5410, Organic Chemicals Group, Emission Standards Division (MD-13), U. S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

SUPPLEMENTARY INFORMATION: The proposed regulatory text is not included in this Federal Register notice, but is available in Docket No. A-92-45, on the Technology Transfer Network (TTN), or from the EPA contact person designated in this notice. The TTN, EPA's electronic bulletin board, provides information and technology exchange in various areas of air pollution control. The service is free, except for the cost of a telephone call. Dial (919) 541-5742 for up to a 14,400 bps modem. If more information on the TTN is needed, call the HELP line at (919) 541-5384.

In addition to the proposed regulatory text, the Basis and Purpose Document, which contains the rationale for the various components of the standard, is available in the docket (Docket No. A-92-45, Category II-A), and on the TTN. This document is entitled Hazardous Air Pollutant Emissions from Process Units in the Thermoplastics Manufacturing Industry -- Basis and Purpose Document for Proposed Standards, March 1995, and has been assigned document number EPA-453/R-95-004a.

Other materials related to this rulemaking, including technical memoranda, are available for review in the docket. Some of these memoranda have been compiled into a single document, the Supplementary Information Document (SID), to allow interested parties more convenient access to the information. The SID is available in the docket (Docket No. A-92-45, Category II-A) and from the EPA Library by calling (919) 541-2777. The document is entitled Hazardous Air Pollutant Emissions from Process Units in the Thermoplastics Manufacturing Industry -- Supplementary Information Document for Proposed Standards, March 1995, and has been assigned document number EPA-453/R-95-003a.

The information presented in this preamble is organized as follows:

I. List of Affected Source Categories

Section 112 of the Act requires that the EPA evaluate and control emissions of HAP. The control of HAP is achieved through promulgation of emission standards under sections 112(d) and 112(f) of the Act and work practice and equipment standards under section 112(h) of the Act for categories of sources that emit HAP. On July 16, 1992, the EPA published an initial list of major and area source categories to be regulated, as required under section 112(c) of the Act. Included on that list were major sources emitting HAP from ABS, SAN, MABS, MBS, polystyrene, and PET. Nitrile resin production is being added to the source category list under section 112(c) of the Act because, based on information obtained during the gathering of HAP emission data for this proposed rule, the one facility identified as producing nitrile resins was determined to be a major source. Further, the EPA decided to include nitrile resin production under today's proposed rule because of similarities in process operations, emission characteristics, and control device applicability and costs with the various styrene-based resin source categories. For the purpose of this notice, these seven polymer and resin source categories are collectively referred to as the Group IV polymers and resins or the Group IV thermoplastics.

The EPA identified a total of 66 facilities producing one or more of the Group IV thermoplastics. Twenty facilities were identified that produced thermoplastics using multiple processes and, thus, fall within multiple subcategories. For example, six of the PET facilities use both the continuous terephthalic acid (TPA) process and the continuous dimethyl terephthalate (DMT) process.

All of the facilities considered in the analysis supporting today's proposed rule are believed to be major sources according to the 1990 Amendments criterion of emitting or of having the potential to emit 10 tons per year (tons/yr) of any one HAP or 25 tons/yr of combined HAP. (A year, for the purposes of compliance with this rule, is any consecutive twelve month period or 365 rolling days). The proposed rule would apply to all major sources that produce any of the seven thermoplastics identified in this notice. Area sources would not be subject to this proposed rule.

In developing the background information to support the proposed rule, the EPA chose to subcategorize four of the seven source categories for purposes of analyzing the maximum achievable control technology (MACT) floors and developing regulatory alternatives. A source category was subcategorized to account for major differences in production methods, raw material usage, or both. Table 1 summarizes the subcategories developed.

TABLE 1. SUBCATEGORIZATION OF GROUP IV POLYMERS AND RESINS[a]

SOURCE CATEGORY	SUBCATEGORY	NUMBER OF FACILITIES IN SUBCATEGORY[b]
ABS	Continuous mass	5
	Continuous emulsion	2
	Batch emulsion	4
	Batch suspension	2
	Batch latex	1
SAN	Continuous	3
	Batch	2
	ASA/AMSAN	1
Polystyrene	Continuous	22
	Batch	11
	EPS	7
PET	TPA, continuous	12
	TPA, batch	1
	DMT, continuous	10
	DMT, batch	10

[a] As discussed in the text, subcategorization was not needed for MABS, MBS, and nitrile facilities. Thus, these source categories are not shown in this table.

[b] Number of facilities include one or more process units of each described subcategory. Some facilities use more than one type of production method or raw material (process). Therefore, it is incorrect to sum these numbers to calculate the total number of facilities within a source category.

ASA   = acrylonitrile styrene acrylate
AMSAN = alpha methyl styrene acrylonitrile
EPS   = expandable polystyrene
TPA   = terephthalic acid
DMT   = dimethyl terephthalate

No subcategorization was found to be justified for the three facilities producing MBS. Only one facility was found to produce MABS and only one to produce nitrile resins. Hereafter, for purposes of this preamble and the proposed standards, the terms "subcategory" and "subcategories" include the production of MBS, MABS, and nitrile even though these are source categories.

Upon inspection (see Section IV, Summary of Proposed Standards), it may appear that subcategorization does not affect the outcome of the proposed standards since the same level of control is required across most of the subcategories for a given type of emission point (e.g., storage vessel, process vent, etc.). In fact, subcategorization does affect the proposed level of control for individual types of emission points. As the development of the proposed standards progressed beyond the technical analyses and the structure of the regulation was examined, the EPA considered different options that would create fewer subcategories for defining the source categories.

In previous rules, the EPA considered by-products, co-products, and intermediates to be products of a process. In the implementation of these previous rules, there has been confusion over the meaning of the terms "product" and "to produce" and the correct way to decide whether a source "produces" a listed chemical and is subject to the standard.

This confusion arises because of the complexity, diversity, and the highly integrated nature of the subject industries.

Because of this confusion, applicability will be based on the primary product that is produced by a thermoplastic product process unit. By-products, co-products, and isolated intermediates would not be considered in determining applicability. For the purposes of this rule, the EPA does not consider wastes to be products. Also, impurities or trace contaminants that are coincidentally processed and are not isolated are not considered to be a product.

The primary product of the thermoplastic product process unit is determined only once, and the determination would be based on the product that represents the largest percentage of the total mass produced by the thermoplastic product process unit.

II. Background

A. Summary of Considerations Made in Developing This Rule

The Act was created, in part, "to protect and enhance the quality of the Nation's air resources so as to promote public health and welfare and the productive capacity of its population" [section 101(b)(1) of the Act]. As such, this regulation protects the public health by reducing emissions of some of the HAP listed in section 112(b)(1) of the Act.

The HAP listed in section 112(b)(1) of the Act emitted by the thermoplastic facilities covered by this proposed rule include styrene, acrylonitrile, butadiene, ethylene glycol, methanol, acetaldehyde, and dioxane. Some of these pollutants are considered to be mutagens and carcinogens, and all can cause reversible or irreversible toxic effects following exposure. The potential toxic effects include eye, nose, throat, and skin irritation; liver and kidney toxicity, and neurotoxicity. These effects can range from mild to severe. In extreme circumstances, death can result from exposure. These adverse health effects are associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect human variability such as genetics, age, health status (e.g., presence of pre-existing disease) and lifestyle. Due to the volatility and relatively low potential for bioaccumulation of these pollutants, air emissions are not expected to deposit in land or water and cause subsequent adverse human health or ecosystem effects.

The EPA does not have the type of current detailed data on each of the thermoplastic facilities covered by this rule, and the people living around the facilities, that would be necessary to conduct an analysis to determine the actual population exposures to the organic HAP emitted from these facilities and resulting health effects. Therefore, the EPA does not know the extent to which the adverse health effects described above occur in the populations surrounding these facilities. However, to the extent the adverse effects do occur, the promulgated standard will substantially reduce emissions and exposures to the level achievable with maximum achievable control technology.

The alternatives considered in the development of this regulation, including those alternatives selected as standards for new and existing sources, are based on process and emissions data received from the existing facilities known by the EPA to be in operation.

Regulatory alternatives more stringent than the MACT floor were selected when they were judged to be reasonable "taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements"

[Section 112(d)(2) of the Act]. In most instances, the proposed standards reflect regulatory alternatives that are judged to be reasonable and are equivalent to or more stringent than the MACT floor. In a few instances, the MACT floor was found to have a relatively high cost. In these cases, the MACT floor was chosen because a less costly, yet otherwise reasonable, regulatory alternative was not available.

The proposed standards give existing facilities 3 years from the date of promulgation to comply. This is the maximum amount allowed by the Act. Based on the number of existing sources affected by this rule, the EPA believes that required retrofits or other actions can be achieved in the timeframe allotted. New facilities are required to comply with the standard upon start-up. The EPA sees no reason why new facilities would not be able to comply with the requirements of the standards upon start-up.

Included in the proposed rule are methods for determining initial compliance as well as monitoring, recordkeeping, and reporting requirements. All of these components are necessary to ensure that affected sources will comply with the standards both initially and over time. However, the EPA has made every effort to simplify the requirements in the rule. This rule refers extensively to the HON (40 CFR part 63, subparts F, G, and H). In doing so, this rule has benefited from the extensive public debate and participation experienced in the HON rulemaking. The EPA has also attempted to maintain consistency with existing regulations by either incorporating text from existing regulations or referencing the applicable sections, depending on which method would be least confusing for a given situation.

Representatives from other interested EPA offices and programs, including State and Regional environmental agency personnel, participated in the regulatory development process as members of the Work Group. The Work Group is involved in the regulatory development process, and is given opportunities to review and comment on the regulation before proposal and promulgation. Therefore, the EPA believes that the implication to other EPA offices and programs has been adequately considered during the development of these standards. In addition, the EPA has met with some members of industry concerning these standards. Finally, industry, regulatory authorities, and environmental groups will have the opportunity to comment on the proposed standards and provide additional information during the public comment period following proposal.

These standards will result in an organic HAP emission reduction of 11,750 Mg/yr for existing facilities and 7,395 Mg/yr for new sources. The emission reductions achieved by these standards, when combined with the emission reductions achieved by other standards mandated by the Act, will achieve the primary goal of the Clean Air Act, which is to "enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population."

B. Regulatory Background

In 1990 (55 FR 51010; December 11, 1990), the EPA promulgated new source performance standards (NSPS) affecting four types of polymer manufacturing facilities (subpart DDD of 40 CFR part 60). Two of these four types -- polystyrene and PET -- are being affected by today’s proposed rule. In addition, polystyrene manufacturing facilities may be subject to State regulations as the result of a control techniques guideline (CTG) document (EPA-450/3-83-008, November 1983; Docket No. A-92-45, Category II-A) addressing, in part, polystyrene manufacturing.

For polystyrene, subpart DDD applies to those facilities that use a continuous process to manufacture general purpose or high impact polystyrene. Facilities that produce general purpose or high impact polystyrene using a batch process were not covered under subpart DDD because information at that time indicated that no new facilities would be constructed using batch processes to produce general purpose or high impact polystyrene. Subpart DDD also applies to all facilities that manufacture expandable polystyrene (EPS), regardless of the process used.

For general purpose or high impact polystyrene facilities using a continuous process and all facilities producing EPS, subpart DDD requires control of continuous process volatile organic compound (VOC) emissions from each material recovery section. The standard for material recovery section process emissions is: (1) limit the emissions of total organic compounds (TOC) (minus methane and ethane) to 0.0036 kilograms (kg) of TOC per megagram (Mg) of product (0.0036 pounds (lbs) TOC/1,000 lbs of product) from each material recovery section, (2) limit the outlet gas temperature from each final condenser in each material recovery section to -25 degrees Celcius (-25°C) [-13° Fahrenheit (-13°F)], or (3) reduce emissions from each material recovery section by 98 weight percent or to 20 parts per million by volume (ppmv). Modified or reconstructed affected facilities with uncontrolled emission rates at or below 0.05 kg TOC per Mg of product were exempted from this part of subpart DDD.

Like subpart DDD, the CTG applies to material recovery section continuous process emissions at polystyrene facilities using a continuous process. The CTG's recommended emission limit is 0.12 kg TOC/Mg of product.

Subpart DDD also requires control of VOC emissions from equipment leaks from polystyrene facilities using a continuous process and from all EPS facilities. With one exception, subpart DDD's standards for equipment leaks are the same as those for synthetic organic chemical manufacturing industry (SOCMI) facilities under subpart VV of 40 CFR part 60. The one exception concerns polymer pumps that are designed with a "bleed port." Such pumps are exempted from the definition of a "visible leak of fluid," but the exemption expires when the existing pump is replaced or reconstructed.

As mentioned previously, subpart DDD also applies to PET facilities that use either a DMT or TPA continuous process. Subpart DDD does not apply to PET facilities that use a batch process because the EPA did not expect any new PET facilities to be constructed using a batch process. For PET facilities using a continuous process, subpart DDD only requires control of selected process emissions. Standards were not proposed or promulgated for equipment leak emissions at PET facilities because available information at that time showed that equipment leak components at facilities using the continuous TPA process were in heavy liquid service and that continuous DMT facilities were already covered by the SOCMI equipment leak standards (subpart VV of 40 CFR part 60).

Table 2 summarizes subpart DDD requirements for process emissions for new, modified, or reconstructed PET facilities. For both DMT and TPA continuous facilities, subpart DDD limits ethylene glycol emissions from the polymerization reaction section by requiring compliance with

TABLE 2. SUMMARY OF NSPS PET STANDARDS

PROCESS	AFFECTED FACILITY	VISCOSITY	NUMBER OF END FINISHERS	TYPE OF VACUUM PRODUCER	STANDARD
DMT	Material Recovery	Low	--	--	0.018 kg TOC/Mg of product OR limit temperature to +37 °F from each final condenser in the material recovery section
		High	Single	--	(same as above)
			Multiple	--	(same as above)
DMT	Polymerization Reaction	Low	--	not steam jets	0.02 kg TOC/Mg of product
				steam jets	0.02 kg TOC/Mg of product AND 0.35 percent ethylene glycol by weight in the effluent exiting the vacuum system
		High	Single	not steam jets	0.02 kg TOC/Mg of product
				steam jets	0.02 kg TOC/Mg of product AND 0.35 percent ethylene glycol by weight in the effluent exiting the vacuum system
			Multiple	not steam jets	0.02 kg TOC/Mg of product
				steam jets	0.02 kg TOC/Mg of product AND 6.0 percent ethylene glycol by weight in the cooling water in the cooling tower
TPA	Raw Materials Preparation	Low	--	--	0.04 kg TOC/Mg of product
		High	Single	--	(same as above)
			Multiple	--	(same as above)
TPA	Polymerization Reaction	Low	--	not steam jets	0.02 kg TOC/Mg of product
				steam jets	0.02 kg TOC/Mg of product AND 0.35 percent ethylene glycol by weight in the effluent exiting the vacuum system
		High	Single	not steam jets	0.02 kg TOC/Mg of product
				steam jets	0.02 kg TOC/Mg of product AND 0.35 percent ethylene glycol by weight in the effluent exiting the vacuum system
			Multiple	not steam jets	0.02 kg TOC/Mg of product

TABLE 2. SUMMARY OF NSPS PET STANDARDS (Concluded)

PROCESS	AFFECTED FACILITY	VISCOSITY	NUMBER OF END FINISHERS	TYPE OF VACUUM PRODUCER	STANDARD
				steam jets	0.02 kg TOC/Mg of product AND 6.0 percent ethylene glycol by weight in the cooling water in the cooling tower

KEY: DMT = dimethyl terephthalate
TPA = terephthalic acid

an emission rate limit (0.02 kg TOC/Mg of product) and an ethylene glycol weight percent concentration limit (either 0.35 or 6.0 percent depending on the type of process) for the cooling water in the cooling tower. In addition, subpart DDD limits process emissions from the material recovery section at continuous DMT facilities and from the raw material preparation section at continuous TPA facilities.

In a manner similar to polystyrene facilities, subpart DDD has uncontrolled emission rate thresholds at or below which modified or reconstructed PET facilities are exempt. Table 3 summarizes these threshold emission rates.

TABLE 3. SUMMARY OF PET THRESHOLD EMISSION RATES

Production Process	Process Section	Uncontrolled Emission Rate, kg TOC/Mg product[a]
Poly(ethylene terephthalate), dimethyl terephthalate process	Material Recovery Polymerization Reaction	0.12[b,c] 1.80[c,d,e]
Poly(ethylene terephthalate), terephthalic acid process	Raw Materials Preparation Polymerization Reaction	g 1.80[c,e,h] 3.92[c,f,h]

[a] "Uncontrolled emission rate" refers to the emission rate of a vent stream that vents directly to the atmosphere and to the emission rate of a vent stream to the atmosphere that would occur in the absence of any add-on control devices but after any material recovery devices that constitute part of the normal material recovery operations in a process line where potential emissions are recovered for recycle or resale.

[b] Emission rate applies to continuous emissions only.

[c] Applies to modified or reconstructed affected facilities only.

[d] Includes emissions from the cooling water tower.

[e] Applies to a process line producing low viscosity poly(ethylene terephthalate).

[f] Applies to a process line producing high viscosity poly(ethylene terephthalate).

[g] See footnote h.

[h] Applies to the sum of emissions to the atmosphere from the polymerization reaction section (including emissions from the cooling water tower) and the raw materials preparation section (i.e., the esterifiers).

In 1994 (59 FR 46350, September 8, 1994), the EPA promulgated national emission standards for hazardous air pollutants (NESHAP) for industrial process cooling towers (40 CFR part 63, subpart G). This rule prohibits the use of chromium-based water treatment chemicals in industrial process cooling towers. Owners and operators of existing industrial process cooling towers must comply within 18 months of September 8, 1994, while owners and operators of new industrial process cooling towers must comply by September 8, 1994 or at initial start-up, depending on when construction was commenced.

III. Authority for National Emission Standards for Hazardous Air Pollutants (NESHAP) Decision Process

A. Source of Authority for NESHAP Development

Section 112 of the Act gives the EPA the authority to establish national standards to reduce air emissions from sources that emit one or more HAP. Section 112(b) contains a list of HAP to be regulated by NESHAP. Section 112(c) directs the EPA to use this pollutant list to develop and publish a list of source categories for which NESHAP will be developed. The EPA must list all known source categories and subcategories of "major sources" (defined below) that emit one or more of the listed HAP. A major source is defined in section 112(a) as any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit in the aggregate, considering controls, 10 tons/yr or more of any one HAP or 25 tons/yr or more of any combination of HAP. This list of source categories was published in the Federal Register on July 16, 1992 (57 FR 31576) and includes ABS, SAN, MABS, MBS, polystyrene, and PET. Today’s action proposes to add nitrile resin production to this list.

B. Criteria for Development of NESHAP

The NESHAP are to be developed to control HAP emissions from both new and existing sources according to the statutory directives set out in section 112(d) of the Act. The statute requires the standards to reflect the maximum degree of reduction in emissions of HAP that is achievable for new or existing sources. This control level is referred to as MACT. Consideration of control levels more stringent than the MACT floor (described below) must reflect consideration of the cost of achieving the emission reduction, any non-air quality, health, and environmental impacts, and energy requirements.

The MACT floor is the least stringent level allowed for MACT standards. For new sources, the standards for a source category or subcategory "shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator" [section 112(d)(3) of the Act]. Existing source standards shall be no less stringent than the average emission limitation achieved by the best performing 12 percent of the existing sources for categories and subcategories with 30 or more sources or the average emission limitation achieved by the best performing 5 sources for categories or subcategories with fewer than 30 sources [section 112(d)(3) of the Act]. These two minimum levels of control define the MACT floor for new and existing sources.

Two interpretations have been evaluated by the EPA for representing the MACT floor for existing sources. One interpretation is that the MACT floor is represented by the worst performing source of the best 12 percent performing sources. The second interpretation is that the MACT floor is represented by the "average emission limitation achieved" by the best performing sources, where the "average" is based on a measure of central tendency, such as the arithmetic mean, median, or mode. This latter interpretation is referred to as the "higher floor interpretation." In a June 6, 1994 Federal Register notice (59 FR 29196), the EPA presented its interpretation of the statutory language concerning the MACT floor for existing sources. Based on a review of the statute, legislative history, and public comments, the EPA believes that the "higher floor interpretation" is a better reading of the statutory language. The determination of the MACT floor for existing sources under today’s rule followed the "higher floor interpretation."

IV. Summary of Proposed Standards

A. Source Categories to be Regulated

Today's proposed standards would regulate organic HAP process emissions from facilities in one of the 18 thermoplastic subcategories listed below, provided that a facility is determined to be a major source. For this proposed rule, an affected source is defined as one of the following:

- All organic HAP emission points at a facility using a continuous emulsion process to produce ABS.
- All organic HAP emission points at a facility using a continuous mass process to produce ABS.
- All organic HAP emission points at a facility using a batch emulsion process to produce ABS.
- All organic HAP emission points at a facility using a batch suspension process to produce ABS.
- All organic HAP emission points at a facility using a batch latex process to produce ABS.
- All organic HAP emission points at a facility producing MABS.
- All organic HAP emission points at a facility producing MBS.
- All organic HAP emission points at a facility using a continuous process to produce SAN.
- All organic HAP emission points at a facility using a batch process to produce SAN.
- All organic HAP emission points at a facility producing ASA/AMSAN.
- All organic HAP emission points at a facility using a continuous process to produce polystyrene.
- All organic HAP emission points at a facility using a batch process to produce polystyrene.

- All organic HAP emission points at a facility producing EPS.
- All organic HAP emission points at a facility using a continuous TPA process to produce PET and any collocated solid state processes.
- All organic HAP emission points at a facility using a batch TPA process to produce PET and any collocated solid state processes.
- All organic HAP emission points at a facility using a continuous DMT process to produce PET and any collocated solid state processes
- All organic HAP emission points at a facility using a batch DMT process to produce PET and any collocated solid state processes.
- All organic HAP emission points at a facility producing nitrile resins.

The proposed rule regulates emissions from solid state PET processes if they are collocated with a TPA or DMT fed PET process, but does not regulate emissions from independently located solid state PET processes (i.e., those that purchase low molecular weight PET from an off-site source). As part of the rulemaking, information was submitted by the industry for collocated solid state PET processes, but none was submitted for independently located solid state PET processes. (Note: the data request did not distinguish solid state as a separate process which might have precipitated companies not submitting data concerning PET produced by this process.) In addition, the EPA believes that independently located solid state PET processes are likely to be non-major sources because there is not a significant source of organic HAP emissions from the solid state process. The emissions from a solid state process are typically the result of release of residual monomer in the low molecular weight PET. For these reasons, the EPA chose not to include independently located solid state PET processes in today's proposed rule.

B. Relationship to Other Rules

Sources subject to the proposed rule are also subject to other existing rules. In some cases, the proposed rule supersedes existing rules and affected sources are no longer required to comply with the existing rule. In other cases, there is no conflict between the existing rule and the proposed rule, and in these cases, the affected source must comply with both rules.

Sources subject to the proposed rule and subject to the NESHAP for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks (40 CFR part 63, subpart I) are required to continue to comply with subpart I until the compliance date of the proposed rule. After the compliance date of the proposed rule, compliance with the proposed rule will constitute compliance with subpart I.

Sources subject to the proposed rule may have storage vessels subject to the NSPS for Volatile Organic Liquid Storage Vessels (40 CFR part 60, subpart Kb). After the compliance date for the proposed rule, such storage vessels are only subject to the proposed rule and are no longer required to comply with subpart Kb.

Some sources subject to the proposed rule that produce PET or polystyrene are also subject to the NSPS for Polymers Manufacturing (40 CFR part 60, subpart DDD). After the compliance date for the proposed rule, such sources are only subject to the proposed rule and are no longer required to comply with subpart DDD. As part of this rulemaking, the EPA is proposing to modify subpart DDD to exclude reference to the manufacture of polystyrene and PET.

Sources subject to the proposed rule may have cooling towers subject to the NESHAP for Industrial Cooling Towers (40 CFR part 63, subpart Q). There is no conflict between the requirements of subpart Q and the proposed rule. Therefore, sources subject to both rules must comply with both rules.

C. Pollutants to be Regulated

The subcategories covered by today’s proposed rule emit a variety of organic HAP. Among the most significant emissions of organic HAP are the following: styrene, acrylonitrile, and butadiene from styrene-based resin production, which includes the production of ABS, SAN, MABS, MBS, and polystyrene; acrylonitrile from nitrile resin production; and ethylene glycol, methanol, acetaldehyde, and dioxane from PET production. The proposed standards would regulate emissions of these compounds, as well as a variety of other organic HAP that are emitted.

D. Affected Emission Points

Emissions from the following types of emission points (i.e. emission source types) are being covered by today’s proposed rule: storage vessels, process vents, equipment leaks, wastewater operations, heat exchange systems and process contact cooling towers.

E. Format of the Standards

As discussed in more detail in Section IV.F, Proposed Standards, the Hazardous Organic NESHAP (HON) (subparts F, G, H, and I of 40 CFR part 63), the polymer manufacturing NSPS (subpart DDD of 40 CFR part 60), and the Batch Processes Alternative Control Techniques (ACT) document (EPA 453/R-93-017, November 1993; Docket No. A-92-45, Category II-A) provided a basis for selection of the proposed formats. In most instances, the format of today’s proposed standards is the same as those found in the HON, Batch Processes ACT, and subpart DDD. The following paragraphs summarize the selected formats, including those that are different from the HON, Batch Processes ACT, and subpart DDD. The formats and their selection are discussed in more detail in the Basis and Purpose Document for this proposed regulation (Docket No. A-92-45, Category II-A).

For storage vessels, the format of the proposed standards is dependent on the method selected to comply with the standards. If tank improvements (e.g., internal or external floating roofs with proper seals and fittings) are selected, the format is a combination of design, equipment, work practice, and operational standards. If a closed vent system and control device are selected, the format is a combination of design and equipment standards.

For process vents, the format of the proposed standards is also dependent on the method selected to comply with the standards. If a flare is selected, the format is a combination of equipment and operating specifications. If a control device other than a flare is used, the formats are a percent reduction and an outlet concentration.

For equipment leaks, the proposed standards incorporate several formats: equipment, design, base performance levels (e.g., maximum allowable percent leaking valves), work practices, and operational practices. Different formats are necessary for different types of equipment because of the nature of the equipment, available control techniques, and applicability of the measurement method.

For wastewater streams requiring control, the proposed standards incorporate several formats: equipment, operational, work practice, and emission standards. The particular format selected depends on which portion of the wastewater stream is involved. For transport and handling equipment, the selected format is a combination of equipment standards and work practices. For the reduction of organic HAP from the wastewater stream itself, several alternative formats are included, including five alternative numerical emission limit formats [overall percent reduction for total volatile organic HAP (VOHAP), individual organic HAP percent reduction, effluent concentration limit for total VOHAP, individual VOHAP effluent concentration limits, and mass removal for organic HAP] and equipment design and operation standard for a steam stripper. For vapor recovery and destruction devices other than flares, the format is a weight percent reduction. For flares, the format is a combination of equipment and operating specifications.

Finally, a work practice standard is adopted for all cooling water/process heat exchange systems at Group IV resin facilities. This standard requires a leak detection and repair program to detect and repair leaks of organic HAP into cooling tower water. In addition, the proposed standards include a work practice standard that prohibits the use of cooling tower water in contact condensers in vacuum systems located at PET facilities.

F. Proposed Standards

With relatively few exceptions, the standards being proposed under today’s action for storage vessels, continuous process vents, equipment leaks, wastewater operations, and heat exchange systems are the same as those promulgated for the corresponding types of emission points at facilities subject to the HON (subparts F, G, H, and I). The proposed standards also require emissions from certain batch process vents to be reduced by at least 90 percent or to be controlled in a flare that meets the requirements of §63.11(b) of subpart A of 40 CFR part 63. (The criteria used to determine which batch process vents require control was based on the approach described in the Batch Processes ACT.) The standards being proposed today for certain continuous process vents from polystyrene facilities and from PET facilities using a continuous process require the same levels of control as were promulgated for these facilities under subpart DDD of 40 CFR part 60. Finally, for PET facilities, the proposed standards would prohibit the use of cooling tower water in contact condensers in the vacuum systems and would require that all vacuum system wastewater containing any of the organic HAP identified in Table 9 of the HON wastewater provisions be controlled to the same level of control as required under the HON, regardless of the wastewater stream’s organic HAP content or flowrate.

Under the proposed standards, emissions from existing or new batch process vents, heat exchange systems not including process contact cooling towers, and equipment leaks are required to be controlled to the levels specified in the proposed standards. Emissions from existing storage vessels, continuous process vents, process wastewater streams, and process contact cooling towers are required to be controlled to the levels specified in the proposed standards or alternatively, the emissions averaging compliance approach specified in the rule may be used. Emissions from new storage vessels, continuous process vents, process wastewater streams, and process contact cooling towers are required to be controlled to the levels specified in the proposed standards. The emissions averaging compliance approach may not be used for new sources.

Tables 4 and 5 summarize the level of control being proposed under today’s proposed standards. For those types of emission points where the level of control is the same as the HON, this is indicated in the table by the acronym "HON." Similarly, where the proposed level of control is the same as promulgated under subpart DDD of 40 CFR part 60, this is indicated by the use of the words "same as under subpart DDD." Finally, where the proposed level of control is more stringent than the level of control in the HON or in subpart DDD for that type of emission point, the words "MACT floor" are used.

TABLE 4. SUMMARY OF PROPOSED STANDARDS FOR EXISTING SOURCES IN RELATIONSHIP TO SUBPARTS G AND H of 40 CFR PART 63 AND SUBPART DDD of 40 CFR PART 60

Subcategory	Type of Emission Point				
	Storage vessels	Process Vents	Equipment Leaks	Wastewater	Heat Exchange Systems
ABS, continuous emulsion	HON	HON	HON	HON	HON for heat exchange systems.
ABS, continuous mass	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
ABS, batch emulsion	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
ABS, batch suspension	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
ABS, latex	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
MABS	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
MBS	HON	Continuous Process Vents: MACT Floor Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
SAN, continuous	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
SAN, batch	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
ASA/AMSAN	MACT Floor	MACT Floor	HON	No control	HON for heat exchange systems.
Polystyrene, continuous	MACT Floor	Continuous Process Vents from material recovery: same as subpart DDD Other Continuous Process vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.

TABLE 4. SUMMARY OF PROPOSED STANDARDS FOR EXISTING SOURCES IN RELATIONSHIP TO SUBPARTS G AND H of 40 CFR PART 63 AND SUBPART DDD of 40 CFR PART 60 (Continued)

Subcategory	Type of Emission Point				
	Storage vessels	Process Vents	Equipment Leaks	Wastewater	Heat Exchange Systems
Polystyrene, batch	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
Expandable polystyrene	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.
PET-TPA, continuous	HON	Continuous Process Vents from raw material preparation and polymerization reaction sections: same as subpart DDD Other Continuous Process vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON for wastewater (including all vacuum system generated wastewater).[a]	No cooling tower water allowed in vacuum system contact condensers. HON for heat exchange systems.
PET - TPA, batch - DMT, batch	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON for wastewater (including all vacuum system generated wastewater).[a]	No cooling tower water allowed in vacuum system contact condensers. HON for heat exchange systems.
PET - DMT, continuous	HON	Continuous Process Vents from material recovery and polymerization reaction sections: same as subpart DDD Other Continuous Process vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON for wastewater (including all vacuum system generated wastewater).[a]	No cooling tower water allowed in vacuum system contact condensers. HON for heat exchange systems.
Nitrile	MACT Floor	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or compliant flare	HON	HON	HON for heat exchange systems.

[a] Vacuum system wastewater streams containing any organic HAP identified in Table 9 of the HON wastewater provisions (subpart G) shall be considered Group 1 and are required to be controlled.

TABLE 5. SUMMARY OF PROPOSED STANDARDS FOR NEW SOURCES IN RELATIONSHIP TO SUBPARTS G & H of 40 CFR PART 63 AND SUBPART DDD OF 40 CFR PART 60

Subcategory	Type of Emission Point				
	Storage vessels	Process Vents	Equipment Leaks	Wastewater	Heat Exchange Systems
ABS, continuous emulsion	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
ABS, continuous mass	Regulatory Alternative 2[a]	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
ABS. batch emulsion	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
ABS. batch suspension	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
ABS, latex	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
MABS	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
MBS	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
SAN, continuous	MACT Floor	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
SAN, batch	HON	MACT Floor	HON	HON	HON for heat exchange systems.
ASA/AMSAN	MACT Floor	MACT Floor	HON	No control	HON for heat exchange systems.
Polystyrene, continuous	MACT Floor	Continuous Process Vents from material recovery: Same as subpart DDD Other Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
Polystyrene, batch	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.

TABLE 5. SUMMARY OF PROPOSED STANDARDS FOR NEW SOURCES IN RELATIONSHIP TO SUBPARTS G & H of 40 CFR PART 63 AND SUBPART DDD OF 40 CFR PART 60 (Continued)

Subcategory	Type of Emission Point				
	Storage vessels	Process Vents	Equipment Leaks	Wastewater	Heat Exchange Systems
Expandable polystyrene	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.
PET - TPA, continuous	HON	Continuous Process Vents from raw material preparation and polymerization reaction sections: same as subpart DDD Other Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON for wastewater (including all vacuum system generated wastewater).[b]	No cooling tower water allowed in vacuum system contact condensers. HON for heat exchange systems.
PET - TPA, batch - DMT, batch	HON	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON for wastewater (including all vacuum system generated wastewater).[b]	No cooling tower water allowed in vacuum system contact condensers. HON for heat exchange systems.
PET - DMT, continuous	HON	Continuous Process Vents from material recovery and polymerization reaction sections: same as subpart DDD Other Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON for wastewater (including all vacuum system generated wastewater).[b]	No cooling tower water allowed in vacuum system contact condensers. HON for heat exchange systems.
Nitrile	MACT Floor	Continuous Process Vents: HON Batch Process Vents: 90 percent reduction or a compliant flare	HON	HON	HON for heat exchange systems.

[a] The proposed standard is more stringent than the MACT floor, which is more stringent than the HON.
[b] Vacuum system wastewater streams containing any organic HAP identified in Table 9 of the HON wastewater provisions (subpart G) shall be considered Group 1 and are required to be controlled.

1. <u>Storage Vessels</u>

Tables 6 and 7 summarize the proposed standards for existing and new storage vessels, respectively. The proposed standards would require owners and operators to first determine whether or not a storage vessel was required to be controlled. This is done through the application of certain criteria to each storage vessel. For those storage vessels determined to require control, the proposed rule then specifies the level of control required.

TABLE 6. PROPOSED STANDARDS FOR EXISTING STORAGE VESSELS

Subcategory	Applicability Criteria[a]	Level of Control[b]
All ABS SAN, continuous SAN, batch MABS MBS Polystyrene, batch All PET Nitrile (except as noted below)	vapor pressure ≥0.75 psia and capacity ≥40,000 gallons[c] vapor pressure ≥1.9 psia and capacity ≥20,000 gallons[c]	If vapor pressure is <11.1 psia: 1. fixed roof and internal floating roof; or 2. external floating roof; or 3. an external floating roof converted to an internal floating roof; or 4. a closed vent system and control device If vapor pressure ≥11.1 psia: a closed vent system and control device[d]
ASA/AMSAN	AMST for capacities ≥10,200 gallons	98 percent reduction
	styrene/acrylonitrile for capacities ≥1,000 gallons	98 percent reduction
	acrylonitrile for capacities ≥20,000 gallons	98 percent reduction
	any other chemical: vapor pressure ≥0.75 psia and capacity ≥40,000 gallons[c] vapor pressure ≥1.9 psia and capacity ≥20,000 gallons[c]	If vapor pressure is <11.1 psia: 1. fixed roof and internal floating roof; or 2. external floating roof; or 3. an external floating roof converted to an internal floating roof; or 4. a closed vent system and control device If vapor pressure ≥11.1 psia: a closed vent system and control device[d]
Nitrile	Control all acrylonitrile storage vessels ≥ 3,500 gallons	(same as the HON level of control)
Polystyrene, continuous	vapor pressure ≥ 0.28 psia and capacity ≥ 20,000 gallons vapor pressure ≥ 2.08 psia and capacity ≥ 10,000 but less than 20,000 gallons	(same as the HON level of control)

[a] Storage vessels that meet the criteria are defined as Group 1 storage vessels and control of their emissions would be required. Storage vessels that do not meet the criteria are defined as Group 2 storage vessels and control of their emissions is not required.

[b] Required for Group 1 storage vessels only.

[c] The applicability criteria for these subcategories are the same as in the HON.

[d] The level of control is the same as the HON.

KEY: AMST = alpha methyl styrene

TABLE 7. PROPOSED STANDARDS FOR NEW STORAGE VESSELS

Subcategory	Applicability Criteria[a]	Level of Control[b]
All ABS (except CM) SAN, batch MABS MBS Polystyrene, batch All PET Nitrile (except as noted below)	vapor pressure ≥0.1 psia and capacity ≥40,000 gallons[c] vapor pressure ≥1.9 psia and capacity ≥10,000 gallons[c]	If vapor pressure is <11.1 psia: 1. fixed roof and internal floating roof; or 2. external floating roof; or 3. an external floating roof converted to an internal floating roof; or 4. a closed vent system and control device If vapor pressure ≥11.1 psia: a closed vent system and control device[d]
ABS, CM	VP ≥ 1.9 psia and capacity ≥10,000 gallons and <12,000 gallons styrene for capacities ≥12,000 gallons VP ≥ 0.0782 psia and ≥12,000 gallons	(same as the HON level of control)
SAN, continuous	VP ≥ 0.0735 to <0.1 psia and capacity ≥600,000 gallons	90 percent reduction
	VP ≥ 0.1 to <1.45 psia and ≥40,000 gallons	(same as the HON level of control)
	VP ≥ 1.45 to <14.7 psia and capacity ≥8,000 to <40,000 gallons	98 percent reduction
ASA/AMSAN	AMST for capacities ≥10,200 gallons	98 percent reduction
	styrene/acrylonitrile for capacities ≥1,000 gallons	98 percent reduction
	acrylonitrile for capacities ≥20,000 gallons	98 percent reduction
	any other chemical: vapor pressure ≥0.1 psia and capacity ≥40,000 gallons[c] vapor pressure ≥1.9 psia and capacity ≥10,000 gallons[c]	(same as the HON level of control)
Nitrile	Control all acrylonitrile storage vessels ≥ 3,500 gallons	(same as the HON level of control)
Polystyrene, continuous	vapor pressure ≥ 0.78 psia and capacity ≥ 29,000 gallons vapor pressure ≥ 0.09 psia and capacity ≥ 12,000 gallons but less than 29,000 gallons vapor pressure ≥ 1.1 psia and capacity ≥ 5,170 gallons but less than 12,000 gallons	(same as the HON level of control)

Footnotes to Table 7

[a] Storage vessels that meet the criteria are defined as Group 1 storage vessels and control of their emissions would be required. Storage vessels that do not meet the criteria are defined as Group 2 storage vessels and control of their emissions is not required.

[b] Required for Group 1 storage vessels only.

[c] The applicability criteria for these subcategories are the same as those in the HON.

[d] The level of control is the same as in the HON.

KEY: CM = continuous mass; VP = vapor pressure

a. Applicability Criteria. For most existing and new storage vessels, the proposed criteria for determining which storage vessels are to be controlled are identical to the criteria from the HON storage vessel provisions and are based on storage vessel capacity and vapor pressure of the stored material. Typically, the vapor pressures and storage vessel capacity criteria that determine Group 1 or Group 2 status are different for existing and new sources. As in the HON, if a storage vessel meets the applicability criteria and is required to be controlled under today's proposed rule, it is referred to as a Group 1 storage vessel. If a storage vessel is not required to apply controls, it is referred to as a Group 2 storage vessel.

For new ABS, continuous mass facilities, the applicability criteria also rely on vapor pressure and storage vessel capacity, but use different levels of each for defining a Group 1 storage vessel (see Table 7).

For new continuous SAN facilities, the proposed standards for storage vessels rely on five different combinations of vapor pressure and storage vessel capacity to determine Group 1 storage vessels. These combinations of vapor pressure and storage vessel capacity are shown in Table 7.

For existing continuous polystyrene facilities, the proposed standards for storage vessels rely on two combinations of vapor pressure and storage vessel capacity to determine Group 1 storage vessels. These combinations of vapor pressure and storage vessel capacity are shown in Table 6.

For new continuous polystyrene facilities, the proposed standards for storage vessels rely on three combinations of vapor pressure and storage vessel capacity to determine Group 1 storage vessels. These combinations of vapor pressure and storage vessel capacity are shown in Table 7.

For existing and new ASA/AMSAN facilities, the proposed standards for storage vessels have two parts to the applicability criteria. The first part identifies specific chemical and storage vessel capacity combinations. The second part applies vapor pressure and storage vessel capacity applicability criteria for storage vessels containing chemicals not specifically identified.

For existing and new nitrile facilities, all acrylonitrile storage vessels with capacities greater than or equal to 3,500 gallons are required to be controlled. For all other chemicals, the applicability criteria are the same as in the HON.

b. Level of Control. Except for the subcategories discussed below, the level of control required for storage vessels determined to be Group 1 storage vessels under the appropriate applicability criteria being proposed in today’s rule is either technical modification to the tank (e.g., the installation of an internal floating roof) or the use of a closed vent system and control device that is generally required to achieve at least 95 percent emission reduction. (This is the same level of control as required under the HON.) For all subcategories, storage vessels determined to be Group 2 are not required to be controlled.

For new continuous SAN facilities, different levels of control for two of the five applicability criteria combinations are being proposed. For the applicability combination of vapor pressure greater than 0.0735 but less than 0.1 pounds per square inch absolute (psia) and storage vessel capacity greater than or equal to 600,000 gallons, the proposed standard would require an emission reduction of 90 percent or more. For the applicability combination of vapor pressure greater than or equal to 1.45 but less than 14.7 psia and storage vessel capacity greater than or equal to 8,000 gallons but less than 40,000 gallons, the proposed standard would require an emission reduction of 98 percent or more.

For ASA/AMSAN facilities, different levels of control for storage vessels determined to be Group 1 based on the specific chemical/storage vessel capacity combination criteria are being proposed. For these storage vessels, the level of control being proposed is 98 percent.

2. Process Vents

As for storage vessels, the proposed standards for process vents require owners and operators to first determine whether or not a process vent (or set of process vents) requires control and, if so, then specifies the level of control required.

a. Applicability Criteria. Tables 8 and 9 summarize the proposed applicability criteria for continuous and batch process vents at existing and new facilities, respectively. As for storage vessels, process vents that meet the applicability criteria are referred to as Group 1 process vents and those that do not are referred to as Group 2 process vents. With the exceptions discussed below, the proposed rule would require control of only those process vents determined to be Group 1 process vents under the appropriate criteria.

TABLE 8. SUMMARY OF PROPOSED PROCESS VENT APPLICABILITY CRITERIA FOR EXISTING FACILITIES

Process Vents	Subcategory	Applicability Criteria	
Continuous Unit Operations	All (except as specified below)	TRE[a] $\leq$ 1	
	MBS	TRE[a] $\leq$ 3.7	
	ASA/AMSAN	None. All vents are required to be controlled	
	Polystyrene, continuous: material recovery	None. Must meet standard	
	PET/DMT, continuous: material recovery	0.12 kg TOC per Mg product[b]	
	PET/DMT, continuous: polymerization reaction	None. Must meet standard	
	PET/TPA, continuous: raw material preparation and polymerization reaction	None. Must meet standard	
Batch Unit Operations	All	Stream Volatility	Flowrate Regression Equation[c]
		Low	(0.00437) AE - 51.6[d]
		Moderate	(0.00187) AE - 14.0[d]
		High	(0.00081) AE - 8.5[d]

[a] The total resource effectiveness (TRE) value is a reflection of the cost effectiveness of controlling an individual process vent. There are different TRE coefficients for existing and new process vents.

[b] If emissions from the described process vents are greater than the applicability criteria, control is required.

[c] If actual stream flowrate (standard cubic meters per minute) is less than the flowrate calculated by the regression equation, the process vent is required to be controlled.

[d] AE = annual emissions in kilograms per year.

TABLE 9. SUMMARY OF PROPOSED PROCESS VENT APPLICABILITY CRITERIA FOR NEW FACILITIES

Process Vents	Subcategory	Applicability Criteria	
Continuous Unit Operations	All (except as specified below)	TRE[a] ≤ 1	
	SAN, batch	None. Must meet standard.	
	ASA/AMSAN	None. All vents are required to be controlled.	
	Polystyrene, continuous: material recovery	None. Must meet standard.	
	PET/DMT, continuous: material recovery and polymerization reaction	None. Must meet standard.	
	PET/TPA, continuous: Raw material preparation and polymerization reaction	None. Must meet standard.	
Batch Unit Operations	All (except as specified below)	Stream Volatility	Flowrate Regression Equation[b]
		Low	(0.00437) AE - 51.6[c]
		Moderate	(0.00187) AE - 14.0[c]
		High	(0.00081) AE - 8.5[c]
	SAN, batch	None. Must meet standard.	

[a] The total resource effectiveness (TRE) value is a reflection of the cost effectiveness of controlling an individual process vent. There are different TRE coefficients for existing and new process vents.
[b] If actual stream flowrate (standard cubic meters per minute) is less than the flowrate calculated by the regression equation, the process vent is required to be controlled.
[c] AE = annual emissions in kilograms per year.

Except for certain PET and polystyrene continuous process vents, Group 1 continuous process vents are determined by comparing each process vent’s total resource effectiveness (TRE) value to a TRE value of unity. The TRE is a reflection of the costs and other associated impacts of controlling an individual process vent. It is determined based on process vent stream characteristics such as emissions (mass per hour), heat content, and flowrate. The procedure in the proposed rule for determining Group 1 process vents is the same procedure as in the HON.

Except for continuous process vents at existing MBS facilities, continuous process vents with a TRE value of 1 or less would be classified as a Group 1 process vent. For continuous process vents at existing MBS facilities, a TRE value of 3.7 or less defines a Group 1 process vent.

As seen in Tables 8 and 9, there are no applicability criteria specified for several subcategories. At these facilities, a Group 1\Group 2 determination does not need to be made and all process vents are required to be controlled.

For process vents associated with the material recovery section from existing PET facilities using a continuous DMT process, Group 1 process vents are determined by comparing uncontrolled emission rates with threshold emission rates. Process vents associated with the material recovery section at an existing PET facility using a continuous DMT process would be considered Group 1 process vents if the uncontrolled emission rate is greater than 0.12 kg TOC per Mg of product (see Table 8). For other process vents at existing and new polystyrene and PET facilities (see Tables 8 and 9), there are no applicability criteria. These process vents must meet the proposed standards.

For process vents from batch unit operations, the process vent is first characterized as to its volatility - low, medium, or high. Next, the estimate of the stream’s annual emissions is entered in the appropriate flowrate regression equation. If the actual flowrate is less than the calculated flowrate, then the batch process vent is a Group 1 vent under these standards, and control is required. As seen in Tables 8 and 9, the batch process vent applicability criteria are the same for existing and new sources, except for new SAN batch facilities.

For new SAN batch facilities, there are no applicability criteria for individual process vent streams; all process vents are subject to control in that the proposed standard for these facilities requires an overall emission reduction of 84 percent from all process vents.

A batch process vent that is combined with a continuous process vent prior to a control or recovery device is not required to comply with the batch process vent provisions if there are no emissions to the atmosphere up until the point the batch vent stream is combined with the continuous vent stream. The combined vent would be required to comply with the continuous process vent provisions. The presence of a batch process vent in a continuous process vent stream would necessitate that all applicability tests and performance tests be conducted while the batch process vent is emitting (i.e. at maximum operating conditions).

b. Level of Control. For continuous process vents, most of the facilities are required to control Group 1 process vents by at least 98 percent. If a flare is used, it must meet the design and operating requirements of §63.11(b) of subpart A of 40 CFR part 63. Exceptions to this are described in the paragraphs below.

For continuous process emissions from the material recovery section of polystyrene plants using a continuous process, the proposed standards would (1) limit the emissions of TOC (minus methane and ethane) to 0.0036 kg TOC/Mg per megagram (Mg) of product (0.0036 pounds (lbs) TOC/1,000 lbs of product) from each material recovery section, or (2) limit the outlet gas temperature from each final condenser in each material recovery section to -25°C (-13°F), or (3) reduce emissions from each material recovery section by 98 weight percent or to 20 ppmv. These are the same requirements as in subpart DDD.

For PET facilities using a continuous TPA process, the proposed standards would limit continuous process vent emissions from (1) the raw material preparation section to 0.04 kg TOC/Mg of product and (2) the polymerization reaction section to 0.02 kg TOC/Mg of product. Similarly, for PET facilities using a continuous DMT process, the proposed standards would limit (1) continuous process vent emissions from the material recovery section to 0.018 kg TOC/Mg of product or the temperature to 37°F from each final condenser in the material recovery section and (2) continuous process vent emissions from the polymerization reaction section to 0.02 kg TOC/Mg of product. These are also the same requirements that are in subpart DDD, with the exception that cooling tower emissions would not be considered as part of the polymerization reaction section.

For Group 1 continuous process emissions from other process sections at polystyrene and PET facilities, the proposed standards would require emission reduction by at least 98 percent or control by a flare that meets the requirements of §63.11(b) of subpart A of 40 CFR part 63.

For batch process vents, the proposed standards would require Group 1 process vents from batch unit operations to be controlled by at least 90 percent.

There are three subcategories where the proposed standards are based on the MACT floor. These subcategories are existing MBS facilities, existing and new ASA/AMSAN facilities, and new SAN, batch facilities.

For existing MBS facilities, the proposed standards require continuous process vents at facilities to either (1) meet an emission level of 0.000590 kg of emissions per megagram of product for all continuous process vents or (2) control all continuous process vents with a total resource effectiveness (TRE) of 3.7 or less by at least 98 percent. The TRE is to be calculated for each process vent using the same TRE coefficients as for other existing sources. The development of the MACT floor and applicability criteria for MBS existing sources is documented in Docket No. A-92-45, Category II-B and in the SID.

For both existing and new ASA/AMSAN facilities, the proposed rule requires all process vents (continuous and batch) at both existing and new facilities to control emissions by at least 98 percent.

For new SAN, batch facilities, the proposed rule requires an overall emission reduction of 84 percent of process vent emissions.

3. Equipment Leaks

For all the subcategories, both existing and new facilities would be required to implement a leak detection and repair (LDAR) program. With a few exceptions, the LDAR program being proposed is the same as that specified in the National Emission Standards for Organic HAP for Equipment Leaks (40 CFR part 63, subpart H) and the National Emission Standards for Organic HAP for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks (40 CFR part 63, subpart I). Under the proposed standards, work practice requirements to reduce emissions from equipment that are in volatile HAP service for 300 or more hours per year (hr/yr) are specified. The proposed standards define "in volatile HAP service" as being in contact with or containing process fluid that contains a total of 5 percent or more total HAP. Equipment subject to the proposed standards are: valves, pumps, compressors, connectors, pressure relief devices, open-ended valves or lines, sampling connection systems, instrumentation systems, agitators, surge control vessels, bottoms receivers, and closed-vent systems and control devices.

Affected sources currently complying with the NESHAP for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks (40 CFR part 63, subpart I) are required to continue to comply with subpart I until the compliance date of today’s proposed rule. Further, affected sources complying with subpart I through a quality improvement program shall be allowed to continue these programs without interruption as part of complying with today’s proposed rule. In other words, becoming subject to today’s proposed rule does not restart or reset the "compliance clock" as it relates to reduced burden earned through a quality improvement program.

4. Wastewater

Except for ASA/AMSAN facilities, the proposed standards require owners and operators to determine for each wastewater stream at its point of generation whether it is a

Group 1 or Group 2 wastewater stream. As for process vents, Group 1 wastewater streams are required to be controlled, while Group 2 wastewater streams are not required to be controlled. The wastewater stream characteristics used to make the Group 1/Group 2 applicability determination are flowrate and organic HAP concentration. The proposed criteria for determining Group 1 wastewater streams are presented in Table 10 and are the same criteria used in the HON. The level of control required for Group 1 wastewater streams is dependent upon the organic HAP constituents in the wastewater stream. The levels of control proposed for these standards are the same as those for the HON. The proposed rule would not control wastewater emissions from any existing or new ASA/AMSAN facilities.

TABLE 10. PROPOSED WASTEWATER APPLICABILITY CRITERIA[a,b]

Existing Source Criteria	New Source Criteria
VOHAP[c] concentration ≥ 10,000 ppmw	Same as existing criteria
<u>or</u>	<u>and</u>
VOHAP[c] concentration ≥ 1,000 ppmw <u>and</u> flow rate ≥ 10 liters per minute	for a subset of organic HAP...VOHAP[c] concentration ≥10 ppmw <u>and</u> flowrate ≥0.02 liters per minute

[a] Wastewater streams meeting these criteria are considered Group 1 wastewater streams and control is required.

[b] There are exemptions for minimal flowrates and concentrations.

[c] VOHAP = volatile organic HAP.

The proposed standards require owners and operators to comply with the maintenance wastewater requirements in §63.105 of subpart F of this part. These provisions require owners and operators to include a description of procedures for managing wastewaters generated during maintenance in their start-up, shutdown and malfunction plan. The start-up, shutdown, and malfunction plan is required under subpart A of 40 CFR part 63.

5. <u>Heat Exchange Systems and Process Contact Cooling Towers</u>

Today's proposed standards would require a monitoring program to detect leakage of organic HAP from the process into the cooling water. The proposed monitoring program is the same as that in the HON (subpart F of this part). The proposed rule would also prohibit the use of cooling tower water in contact condensers in the vacuum systems at PET facilities. Further, if a wastewater stream is generated from the vacuum system and it contains any of the organic HAP identified in Table 9 of the HON wastewater provisions (subpart G), the proposed rule would require it to be controlled regardless of its organic HAP concentration or flowrate. The level of control required is the same as that for a Group 1 wastewater stream.

These provisions for control of emissions from process contact cooling towers are independent of the provisions of the NESHAP for Industrial Cooling Towers (40 CFR part 63, subpart Q) which may also be applicable to these cooling towers.

The EPA solicits comments on the emission reduction potential, costs, and technical feasibility of all control options for process contact cooling towers at PET facilities. Any comments on alternate control options should address the emissions from the cooling tower, the emissions from any wastewater discharged from the equipment required by the control option, and any "reactor process" or "distillation column" vent emissions associated with the option.

6. Emissions Averaging

Today's proposed standards would apply essentially the same emissions averaging scheme as has been adopted by the HON, although the emissions averaging provisions of the proposed rule are entirely contained in the proposed rule instead of referring to the subpart G emissions averaging provisions. Under the proposed rule, emissions averaging would be allowed among five collocated existing emission points belonging to the same subcategory. This number may be increased by three additional points if pollution prevention measures are to be used to control emission points to be included in the average. However, emissions from batch process vents and equipment leaks would not be allowed to be averaged. The owner or operator must demonstrate that the averaging scheme will not result in greater hazard or risk relative to strict compliance with the standards in the absence of averaging.

The EPA specifically requests comments on the selection of the limit of (5, or 8 if pollution prevention measures are used) emission points to be allowed per subcategory for purposes of averaging in this proposed rule. Will this limit preclude known opportunities within real facilities to generate cost-effective credits within a category or subcategory? Any comments on this need to address specifics on the emission and cost quantities computed, with detailed calculations and references to show how these quantities were determined.

The EPA is including emissions from process contact cooling towers and vacuum system wastewater at existing PET facilities in the emissions averaging procedures for the proposed rule. As noted earlier, the proposed standards would 1) prohibit existing PET facilities from using cooling tower water in the contact condensers associated with vacuum systems, and 2) would require the control of any wastewater stream generated by the vacuum system containing organic HAP listed on Table 9 of the wastewater provisions in subpart G of this part to the level required for a Group 1 process wastewater stream. Control is required regardless of the organic HAP concentration and flowrate of the stream.

The proposed prohibition for cooling tower water would eliminate organic HAP emissions from the process contact cooling towers since the cooling tower water would not come in contact with the organic HAP generated by the process. If an owner or operator elected to comply with the proposed emissions averaging procedures, the owner or operator could elect not to eliminate process contact cooling tower water from the vacuum system. This would create a debit; that is, organic HAP emissions would now occur from the cooling tower, whereas, under the proposed rule, no organic HAP emissions would occur. Thus, the proposed emissions averaging procedures only include process contact cooling towers in the equation for the calculation of debits. On the other hand, since the proposed standard would eliminate organic HAP emissions from the cooling tower, there is no opportunity for an owner or operator to control cooling tower emissions to a level more stringent than the proposed rule. Thus, the proposed emissions averaging procedures for calculating credits do not include process contact cooling towers. The EPA is specifically requesting information on methodologies which could be used to estimate emissions from process contact cooling towers.

The EPA requests comments on all aspects of the implementation of emissions averaging and on ways that the emissions averaging provisions can be made more flexible without reducing the emission reduction. A discussion of the rationale for the proposed emissions averaging provisions is contained in Chapter 4 of the Basis and Purpose Document.

G. Compliance and performance test provisions and monitoring requirements

Compliance and performance test provisions and monitoring requirements contained in today's proposed rule are very similar to those found in the HON (subpart G of part 63). Each type of emission point is discussed briefly in the paragraphs below. Also, significant differences from the parameter monitoring requirements found in subpart G are discussed.

1. Continuous Process Vents

The proposed regulations for process vents from continuous unit operations (continuous process vents) require the owner or operator to either calculate a TRE index value to determine whether each continuous process vent is a Group 1 or Group 2 vent, or the owner or operator can elect to comply with the control requirements without calculating the TRE index. The TRE index value is determined after the last recovery device in the process or prior to venting to the atmosphere. The TRE calculation involves an emissions test or engineering assessment and use of the TRE equations in the proposed rule.

Performance test provisions are included for Group 1 continuous process vents to verify that the control device achieves the required performance. Monitoring provisions necessary to demonstrate compliance are also included in the proposed rule.

Compliance provisions for continuous process vents at polystyrene and PET facilities are included in the proposed rule. For owners or operators electing to comply with a kg TOC/Mg of product limit, procedures to demonstrate compliance are provided. Also, procedures are included in the proposed rule to demonstrate compliance with the requirement to reduce overall process vent emissions (continuous and batch) by 84 percent for new SAN, batch facilities.

2. Batch Process Vents

Similar to the provisions for continuous process vents, there is a procedure for determining which batch process vents are Group 1 and which are Group 2. This procedure is based on annual emissions and annual average flowrate of the batch process vent. Equations for estimating annual emissions and annual average flowrates are provided in the proposed rule.

Performance test provisions are included for Group 1 batch process vents to verify that the control or recovery device achieves the required performance. Monitoring provisions necessary to demonstrate compliance are also included in the proposed rule.

For Group 2 batch process vents, the proposed rule requires owners and operators to establish a batch cycle limitation. The batch cycle limitation limits the number of batch cycles that can be accomplished for a given batch unit operation per year (i.e., for the operations that feed a single batch process vent). This enforceable limitation ensures that a Group 2 batch process vent does not become a Group 1 batch process vent as a result of running more batches than anticipated when the group determination was made. The determination of the batch cycle limitation is not tied to any previous production amounts. An affected source may set the batch cycle limitation at any level it desires as long as the batch process vent remains a Group 2 batch process vent. Alternatively the proposed rule would allow owners and operators to declare any Group 2 batch process vent to be a Group 1 batch process vent. In such cases, control of the batch process vent is required.

As described earlier, procedures are included in the proposed rule to demonstrate compliance with the requirement to reduce overall process vent emissions (continuous and batch) by 84 percent for new SAN, batch facilities.

3. Storage Vessels

Monitoring and compliance provisions include periodic visual inspections of vessels, roof seals, and fittings, as well as internal inspections. If a control device is used, the owner or operator must identify the appropriate monitoring procedures to be followed in order to demonstrate compliance. Monitoring parameters and procedures for many of the control devices likely to be used are already identified in other parts of the proposed rule. Reports and records of inspections, repairs, and other information necessary to determine compliance are also required by the proposed rule.

4. Wastewater

For demonstrating compliance with the various requirements, the proposed rule allows the owners or operators to either conduct performance tests or to document compliance using engineering calculations. Appropriate compliance and monitoring provisions are included in the regulation.

5. Equipment Leaks

The proposed rule retains the use of Method 21 to detect leaks. Method 21 requires a portable organic vapor analyzer to monitor for leaks from equipment in use. A "leak" is a concentration specified in the regulation for the type of equipment being monitored and is based on the instrument response to methane (the calibration gas) in air. The observed screening value may require adjustment for response factor relative to methane if the weighted response factor of the stream exceeds a specified multiplier. The proposed rule requires the use of Method 18 to determine the organic content of a process stream. Test procedures using either a gas or a liquid for pressure testing the batch system are specified to test for leaks.

6. Heat Exchange Systems

Monitoring of cooling water is required to detect leaks in non-contact heat exchange systems. If a leak is detected, the heat exchange system must be repaired.

7. Process Contact Cooling Towers

Owners and operators of affected sources subject to these provisions are required to indicate in their Implementation Plan and Notification of Compliance Status reports that cooling tower water will not be used in contact condensers associated with vacuum systems.

8. Continuous Parameter Monitoring

When compared to the HON, the proposed rule contains two significant differences related to continuous parameter monitoring. First, the proposed rule does not allow any excused excursions. The proposed rule, as did subpart G, requires at least 75 percent of monitoring data to constitute a valid days worth of data for continuous and batch process vents. Failure to have a valid day's worth of monitoring data is considered an excursion. The criteria for determining a valid day's or hour's worth of data are provided in the proposed rule. Second, the procedure for determining the parameter monitoring level for continuous and batch process vents is both more specific and restrictive than the procedure in subpart G because it relies exclusively on performance tests.

H. Recordkeeping and Reporting Requirements

The general recordkeeping and reporting requirements of this subpart are very similar to those found in subpart G of 40 CFR part 63. The proposed rule also relies on the provisions of subpart A of 40 CFR part 63. A table included in the proposed rule designates which sections of subpart A apply to the proposed rule. Specific recordkeeping and reporting requirements for each type of emission point are also included in the proposed rule.

The proposed rule requires sources to keep records and submit reports of information necessary to document compliance. Records must be kept for 5 years. The following six types of reports must be submitted to the Administrator as appropriate: (1) Initial Notification, (2) Implementation Plan (if an operating permit application has not been submitted or, for new sources, an application for approval of construction or reconstruction), (3) Emissions Averaging Plan, (4) Notification of Compliance Status, (5) Periodic Reports, and (6) other reports. The requirements for each of the six types of reports are summarized below. In addition, sources complying with the equipment leak requirements contained in subpart H must follow the recordkeeping and reporting requirements of subpart H.

1. Initial Notification

The Initial Notification is due 120 days after the date of promulgation for existing sources. For new sources, it is due 180 days before commencement of construction or reconstruction, or 45 days after promulgation, whichever is later. The notification must list the thermoplastic processes that are subject to the proposed rule, and which provisions may apply (e.g., continuous process vents, batch process vents, storage vessels, wastewater, and/or equipment leak provisions). A detailed identification of emission points is not necessary for the Initial Notification. The notification, however, must include a statement of whether the affected source expects that it can achieve compliance by the specified compliance date.

2. Implementation Plan

The Implementation Plan details how the affected source plans to comply. An Implementation Plan would be required only for affected sources that have not yet submitted an operating permit application or for new sources that have not yet submitted the same information as part of their application for approval of construction or reconstruction.

The Implementation Plan would be due 12 months prior to the date of compliance. For new sources, Implementation Plans would be submitted with the Notification of Compliance Status.

The information in the Implementation Plan should be incorporated into the affected source’s operating permit application. The terms and conditions of the plan, as approved by the permit authority, would then be incorporated into the operating permit.

The Implementation Plan would include a list of emission points subject to the continuous process vents, batch process vents, storage vessels, wastewater, heat exchange systems, process contact cooling towers, and equipment leak provisions and, as applicable, whether each emission point (e.g., storage vessel or process vent) is Group 1 or Group 2. The control technology or method of compliance planned for each Group 1 emission point must be specified.

The plan must also certify that appropriate testing, monitoring, reporting, and recordkeeping will be done for each Group 1 emission point. If an affected source requests approval to monitor a unique parameter, a rationale must be included.

3. Emissions Averaging Plan

The Emissions Averaging Plan would be due 18 months prior to the date of compliance. New sources are not allowed to comply through the use of emissions averaging.

For points included in emissions averaging, the Emissions Averaging Plan would include: an identification of all points in the average and whether they are Group 1 or

Group 2 points; the specific control technique or pollution prevention measure that will be applied to each point; the control efficiency for each control used in the average; the projected credit or debit generated by each point; and the overall expected credits and debits. The plan must include a demonstration that the emissions averaging scheme will not result in greater hazard or risk than if the emission points would comply with the standards in the absence of averaging. The plan must also certify that the same types of testing, monitoring, reporting, and recordkeeping that are required by the proposed rule for Group 1 points will be done for all points (both Group 1 and Group 2) included in an emissions average. If an affected source requests approval to monitor a unique parameter or use a unique recordkeeping and reporting system, a rationale must be included in the Emissions Averaging Plan.

4. Notification of Compliance Status

The Notification of Compliance Status would be required 150 days after the affected source’s compliance date. It contains the information for Group 1 emission points and for all emission points in emissions averages, necessary to demonstrate that compliance has been achieved. Such information includes, but is not limited to, the results of any performance tests for continuous and/or batch process vents and wastewater emission points; one complete test report for each test method used for a particular kind of emission point; TRE determinations for continuous process vents; group determinations for batch process vents; design analyses for storage vessels and wastewater emission points; monitored parameter levels for each emission point and supporting data for the designated level; and values of all parameters used to calculate emission credits and debits for emissions averaging.

5. Periodic Reports

Generally, Periodic Reports would be submitted semiannually. However, there are two exceptions. First, quarterly reports must be submitted for all points included in an emissions average. Second, if monitoring results show that the parameter values for an emission point are above the maximum or below the minimum established levels for more than 1 percent of the operating time in a reporting period, or the monitoring system is out of service for more than 5 percent of the time, the regulatory authority may request that the owner or operator submit quarterly reports for that emission point. After 1 year, semiannual reporting can be resumed, unless the regulatory authority requests continuation of quarterly reports.

All Periodic Reports would include information required to be reported under the recordkeeping and reporting provisions for each emission point. For emission points involved in emissions averages, the report would include the results of the calculations of credits and debits for each month and for the quarter. For continuously monitored parameters, the data on those periods when the parameters are above the maximum or below the minimum established levels are included in the reports. Periodic Reports would also include results of any performance tests conducted during the reporting period and instances when required inspections revealed problems. Additional information the affected source is required to report under its operating permit or Implementation Plan would also be described in Periodic Reports.

6. Other reports

Other reports required under the proposed rule include: reports of start-up, shutdown, and malfunction; process changes that change the compliance status of process vents; and requests for extensions of repair and notifications of inspections for storage vessels and wastewater.

In addition, quarterly reporting of the number of batch cycles accomplished for Group 2 batch process vents is required. Every fourth quarterly report would be required to include the total batch cycles accomplished during the previous 12 months, and a statement whether the owner or operator is in compliance with the batch cycle limitation.

V. Solicitation of Comments

The Administrator welcomes comments from interested persons on any aspect of the proposed rule, and on any statement in the preamble or the referenced supporting documents. The proposed rule was developed on the basis of information available. The Administrator is specifically requesting factual information that may support either the approach taken in the proposed standards or an alternate approach. To receive proper consideration, documentation or data should be provided.

Specifically, the EPA is requesting comments and data on several aspects of the proposed rule. First, the EPA solicits comments and data on the technical feasibility and costs for emission control techniques for the vacuum system and associated process contact cooling towers used in PET production as described in Section IV.F.5 of this preamble and in the Basis and Purpose Document, Chapter 6. Second, the EPA solicits comments on several aspects of the emissions averaging provisions as described in Section IV.F.6 of this preamble and in the Basis and Purpose Document, Chapter 4. The emissions averaging provisions in this proposed rule are modeled after those in the HON. The EPA is interested in comments on all aspects, but is especially interested in comments on the limitation of the number of emission points allowed in an average and on ways that the implementation of emissions averaging can be made more flexible without reducing the emission reduction. Third, the EPA solicits comments related to the use of subpart DDD emission limits and the proposed modification to subpart DDD. Fourth, and finally, in some instances, the EPA has required control more stringent than that required by the MACT floor. In these instances, the EPA has judged the impacts to be reasonable. The EPA specifically solicits comments on these decisions.

VI. Summary of Environmental, Energy, Cost, and Economic Impacts

This section presents the air, non-air environmental (water and solid waste), energy, cost, and economic impacts resulting from the control of organic HAP emissions under this rule.

A. Facilities Affected by these NESHAP

The proposed rule would affect ABS, SAN, MABS, MBS, polystyrene, PET, and nitrile facilities that are major sources in themselves, or that are located at a major source. Based on available information, all of the facilities at which these thermoplastics are produced were judged to be major sources for the purpose of developing these standards. (Final determination of major source status occurs as part of the compliance determination process undertaken by each individual source.)

Impacts are presented relative to a baseline reflecting the level of control in the absence of the rule. The current level of control was well understood because emissions and control data were collected on each facility included in the analysis. The impacts estimates were determined for both existing facilities and new facilities (i.e., those that are expected to begin operation through 1999).

The expected growth rate in each of the seven source categories was analyzed (see Docket No. A-92-45, Category

II-B) and the SID. Based on this analysis, the following average annual growth rates (percent per year) through 1999 were estimated:

- ABS - 4 percent
- SAN - 4 percent
- MABS - 3 percent
- MBS - 3 percent
- polystyrene - 3 percent
- PET - 10 percent for bottle-grade resins and 4 percent for other PET resins
- nitrile - 3 percent.

The impacts for existing sources were estimated by bringing each facility's control level up to the proposed standards. For new sources, impacts were based on identifying the number of new facilities required to meet the expected growth within the source category, identifying the types of facilities (e.g., batch versus continuous) that would be built, and then selecting a subset of the existing facilities to represent the expected growth. The impacts on these "new" facilities were determined by applying the proposed standards for new sources to the selected subset of facilities assuming the existing level of control. This methodology is discussed in detail in Docket No. A-92-45, Category II-B and the SID.

B. <u>Primary Air Impacts</u>

The proposed standards are estimated to reduce organic HAP emissions from all existing sources by 11,750 Mg/yr from a baseline level of 24,780 Mg/yr. This is a 47 percent reduction. For new facilities, the proposed standards are estimated to reduce organic HAP emissions by 7,395 Mg/yr from a baseline level of 14,920 Mg/yr, for a 50 percent reduction. Table 11 summarizes the organic HAP emission reductions for each individual subcategory.

TABLE 11. ORGANIC HAP EMISSIONS AND EMISSION REDUCTIONS

Subcategory	Existing Sources			New Sources		
	Baseline, Mg/yr	Emission Reduction, Mg/yr	Percent Reduction	Baseline, Mg/yr	Emission Reduction, Mg/yr	Percent Reduction
ABS, continuous mass	240	190	80%	95	87	92%
ABS, continuous emulsion[a]	1,110	>180	>16%	400	>115	>29%
ABS, batch emulsion	500	56	11%	35	15	43%
ABS, batch suspension	15	5	33%	13	5	38%
ABS, latex	3	2	67%	--	--	--
SAN, continuous	110	65	60%	40	25	63%
SAN, batch	35	13	37%	20	6	30%
ASA/AMSAN	100	94	94%	--	--	--
MABS[a]	86	>38	>44%	--	--	--
MBS	190	130	68%	20	16	80%
Polystyrene, continuous	1,440	1,060	74%	330	240	73%
Polystyrene, batch	190	130	68%	--	--	--
Expandable polystyrene	450	92	20%	--	--	--
PET-TPA, continuous	6,090	2,400	40%	6,090	2,200	36%
PET-TPA, batch[a]	1,310	>6	>1%	1,310	>6	>1%
PET-DMT, continuous	4,480	2,330	52%	3,190	1,810	57%
PET-DMT, batch	8,400	4,950	59%	3,380	2,870	85%
Nitrile	30	10	33%	--	--	--
Totals[b]	24,780	11,750	47%	14,920	7,395	50%

-- No new growth projected, therefore no impacts expected.
[a] A portion of the emission reductions for this subcategory are confidential business information.
[b] Total values are affected by the subcategories for which some data are confidential business information.

C. Non-Air Environmental

The proposed standards are not expected to generate any adverse water impacts. Depending on the methods selected to comply with the proposed prohibition of cooling tower water in contact condensers, the amount of wastewater generated at PET facilities could decrease.

The proposed standards are not expected to increase the generation of solid waste at any Group IV thermoplastic facility.

D. Energy Impacts

Energy impacts include increased energy use (fuel) for the operation of control equipment, energy credits attributable to the prevention of organic HAP emissions from equipment leaks, and emissions of particulates, sulfur dioxides (SO_x), and nitrogen oxide (NO_x) (secondary air impacts) associated with increased energy use. Under today's proposed rule, energy use is expected to increase by approximately 30,000 barrels of oil per year for existing sources and 44,000 for new sources. The emissions of secondary air pollutants associated with this energy increase are 70 Mg/yr for existing sources and 80 Mg/yr for new sources. At the same time, energy credits attributable to the prevention of organic HAP emissions from equipment leaks are approximately 17,000 barrels of oil per year for existing sources and 8,000 for new sources. This results in a net increase of approximately 13,000 barrels of oil per year for existing sources and 36,000 for new sources.

These figures are related to the control of process vents, wastewater operations, and equipment leaks. Energy impacts related to storage vessels were not estimated since many storage vessels would be controlled through the use of internal floating roofs which do not have any associated energy impacts. Further, the estimates above do not include the projected energy savings associated with control of emissions from process contact cooling towers and vacuum system wastewater associated with the manufacture of PET. The majority of existing vacuum systems are operated with steam jets, which are very energy intensive. The precise affect of the proposed rule on the use of steam jets cannot be predicted with accuracy. However, it is anticipated by the EPA that compliance with the proposed rule will, in almost all cases, decrease the energy demand of the vacuum systems.

Given the relatively small energy impacts projected for the control of process vents, wastewater operations, and equipment leaks and the projected energy savings associated with control of vacuum system air emissions, the EPA has judged the energy impacts associated with today’s proposed rule to be acceptable.

E. Cost Impacts

Cost impacts include the capital costs of new control equipment, the cost of energy (supplemental fuel, steam, and electricity) required to operate control equipment, operation and maintenance costs, and the cost savings generated by reducing the loss of valuable product in the form of emissions. Also, cost impacts include the costs of monitoring, recordkeeping, and reporting associated with the proposed standards. Average cost effectiveness ($/Mg of pollutant removed) is also presented as part of cost impacts and is determined by dividing the annual cost by the annual emission reduction. Table 12 presents the estimated capital and annual costs and average cost effectiveness by subcategory.

TABLE 12. SUMMARY OF COST IMPACTS

Subcategory	Existing Sources			New Sources		
	Total Capital Cost, $1000	Total Annual Costs, $1000/yr	Average Cost-Effectiveness ($/Mg)	Total Capital Cost, $1000	Total Annual Costs, $1000/yr	Average Cost-Effectiveness ($/Mg)
ABS, continuous mass	210	100	550	150	38	430
ABS, continuous emulsion[a]	>3,540	>1,300	<7,160	>3,490	>1,730	<14,970
ABS, batch emulsion	430	310	5,550	18	14	960
ABS, batch suspension	28	19	3,570	28	19	3,760
ABS, latex	0.5	-0.5	-240	--	--	--
SAN, continuous	450	160	2,520	180	38	1,490
SAN, batch	80	33	2,520	1	-1.3	-210
ASA/AMSAN	550	200	2,150	--	--	--
MABS[a]	90	>-2	>-50	--	--	--
MBS	550	360	2,720	440	234	14,200
Polystyrene, continuous	770	280	260	200	90	350
Polystyrene, batch	300	160	1,270	--	--	--
Expandable polystyrene	110	50	540	--	--	--
PET-TPA, continuous	40,790	2,970	1,230	2,160	-3,926	-1,770
PET-TPA, batch[a]	>30	>18	<3,180	>30	>18	<3,180
PET-DMT, continuous	28,250	3,010	1,300	2,200	-970	-540
PET-DMT, batch	22,080	3,360	680	1,440	-38	-13
Nitrile	9	7	660	--	--	--
Totals[b]	98,270	12,330	1,050	10,340	-2,750	-370

-- No new growth projected, therefore no impacts expected.
[a] A portion of the costs and/or emission reductions for this subcategory are confidential business information.
[b] Total values are affected by the subcategories for which some data are confidential business information.

Under the proposed rule, it is estimated that total capital costs for existing sources would be $98 million (1989 dollars), and total annual costs would by $12.3 million (1989 dollars) per year. It is expected that the actual compliance cost impacts of the proposed rule would be less than presented because of the potential to use common control devices, upgrade existing control devices, use other less expensive control technologies, implement pollution prevention technologies, or use emissions averaging. Since the effect of such practices is highly site-specific and data were unavailable to estimate how often the lower cost compliance practices could be utilized, it is not possible to quantify the amount by which actual compliance costs would be reduced.

F. Economic Impacts

The economic impact analysis for the selected regulatory alternatives shows that the estimated price increases for the affected chemicals range from 0.1 percent for nitrile to 2.8 percent for SAN. Estimated decreases in output range from 0.1 percent for polystyrene to 4.6 percent for SAN. Net annual exports (exports minus imports) are predicted to decrease by an average of 2.5 percent.

As many as five PET facilities and one ABS facility are at risk of discontinuing PET and ABS production, respectively, due to the burden of compliance with the standard. This does not mean that the facilities affected face the risk of closure. The facilities affected will continue to produce other chemicals whose processes are not affected by this standard.

Three assumptions in the analysis likely lead to an overestimate of the number of facilities at risk of discontinuing production of affected chemicals. First, the economic analysis model assumes that all PET and ABS facilities compete in a national market, though in reality some facilities may be protected from some competitors by regional or local trade barriers.

Second, it is assumed that the facilities with the highest control cost per unit of production also have the highest baseline production costs per unit. This assumption may not always be true since the baseline production costs per unit are not known, and thus the estimated number of facilities that would discontinue production of affected chemicals may be too high.

Third, for the production of PET, the selected regulatory alternative includes the control of organic HAP emissions from the vacuum system and process contact cooling tower. Control of these emissions is the highest cost item in the selected regulatory alternative and is the biggest contributor to the risk of facilities discontinuing PET production. The economic analysis is based on the use of ethylene glycol jets to control these emissions. There are a number of potential control technologies for these emissions that are expected by the EPA to have lower costs, but costs for these control technologies were not calculated. Ethylene glycol jets are being used by at least two facilities and data were available from one facility. The EPA has and will continue to investigate other control technologies for control of these emissions. The EPA invites comment and data on other control technologies.

More detailed information concerning the economic impacts and analysis are included in the Regulatory Impacts Analysis document (Docket No. A-92-45, Category II-B).

VII. Administrative Requirements

A. Public Hearing

A public hearing will be held, if requested, to discuss the proposed standard in accordance with section 307(d)(5) of the Clean Air Act. Persons wishing to make oral presentation on the proposed standards for ABS, SAN, MABS, MBS, polystyrene, PET, and nitrile production should contact the EPA at the address given in the ADDRESSES section of this preamble. Oral presentations will be limited to 15 minutes each. Any member of the public may file a written statement before, during, or within 30 days after the hearing. Written statements should be addressed to the Air Docket Section address given in the ADDRESSES section of this preamble and should refer to Docket No. A-92-45.

A verbatim transcript of the hearing and written statements will be available for public inspection and copying during normal working hours at the EPA's Air Docket Section in Washington, DC (see ADDRESSES section of this preamble).

B. Docket

The docket is an organized and complete file of all the information submitted to or otherwise considered by the EPA in the development of the proposed rule. The principal purposes of the docket are:

(1) To allow interested parties to readily identify and locate documents so that they can intelligently and effectively participate in the rulemaking process; and

(2) To serve as the record in case of judicial review (except for interagency review materials [section 307(d)(7)(A)]).

C. Executive Order 12866

Under Executive Order 12866, [58 Federal Register 51,735 (October 4, 1993)] the Agency must determine whether the regulatory action is "significant" and therefore subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) have an annual effect on the economy of $100 million or more or adversely affect, in a material way, the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of the Executive Order, the OMB has notified the EPA that it considers this a "significant regulatory action" within the meaning of the Executive Order. The EPA submitted this action to the OMB for review. Changes made in response to suggestions or recommendations from the OMB were documented and included in the public record.

D. Enhancing the Intergovernmental Partnership Under Executive Order 12875

In compliance with Executive Order 12875, we have involved State, local, and tribal governments in the development of this rule. These governments are not directly impacted by the rule; i.e. they are not required to purchase control systems to meet the requirements of the rule. However, they will be required to implement the rule; e.g. incorporate the rule into permits and enforce the rule. They will collect permit fees which will be used to offset the resource burden of implementing the rule. Two representatives of the State governments have been members of the EPA Work Group developing the rule. The Work Group has met numerous times, and comments have been solicited from the Work Group members, including the State representatives. Their comments have been carefully considered in the rule development. In addition, all States are encouraged to comment on this proposed rule during the public comment period, and the EPA intends to fully consider these comments in the final rulemaking.

E. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. An information collection request (ICR) document has been prepared by the EPA (ICR No. 1737.01), and a copy may be obtained from Sandy Farmer, Information Policy Branch, EPA, 401 M Street SW. (2136), Washington, DC 20460, or by calling (202) 260-2740. The public reporting burden for this collection of information is estimated to average 938 hours per response per year, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, 2136, U. S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20503, marked "Attention: Desk Officer for EPA." The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

F. Regulatory Flexibility Act.

The Regulatory Flexibility Act (or RFA, Public Law 96-354, September 19, 1980) requires Federal agencies to give special consideration to the impact of regulation on small businesses. The RFA specifies that a final regulatory flexibility analysis must be prepared if a proposed regulation will have a significant economic impact on a substantial number of small entities. To determine whether a final RFA is required, a screening analysis, otherwise known as an initial RFA, is necessary.

Regulatory impacts are considered significant if:

1) Annual compliance costs increase total costs of production by more than 5 percent, or

2) Annual compliance costs as a percent of sales are at least 20 percent (percentage points) higher for small entities, or

3) Capital cost of compliance represent a significant portion of capital available to small entities, or

4) The requirements of the regulation are likely to result in closures of small entities.

A "substantial number" of small entities is generally considered to be more than 20 percent of the small entities in the affected industry.

Consistent with Small Business Administration (SBA) size standards, a thermoplastic producing firm is classified as a small entity if it has less than 750 employees, and is unaffiliated with a larger entity. Based upon this criterion, only one firm employs less than 750 workers.

Data were available to examine two of the criteria: the potential for closure, and a comparison of compliance costs as a percentage of sales.

For criterion one, the affected source is not expected to fall at risk of closure from the regulation, thus this criterion is not met. Also, the compliance costs were only 0.001 percent of total sales for the affected source, and this does not meet criterion two.

The affected firm is an MBS producer, and since the economics analysis lead to the conclusion that no MBS facilities are at risk of closure, this criterion is not met. Also, the compliance costs were only 0.001 percent of total sales for the firm.

In conclusion, and pursuant to section 605(b) of the Regulatory Flexibility Act, 5 U.S.C. 605(b), the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities. The basis for the certification is that the economic impacts for small entities do not meet or exceed the criteria in the Guidelines to the Regulatory Flexibility Act of 1980, as shown above. Further information on the initial RFA is available in the background information package (see Supplementary Information section near the beginning of this preamble).

G. Miscellaneous

In accordance with section 117 of the Act, publication of this proposal was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies. The Administrator will welcome comments on all aspects of the proposed regulation, including health, economic and technical issues, and on the proposed test methods.

This regulation will be reviewed 8 years from the date of promulgation. This review will include an assessment of such factors as evaluation of the residual health and environmental risks, any overlap with other programs, the existence of alternative methods, enforceability, improvements in emission control technology and health data, and the recordkeeping and reporting requirements.

LIST of SUBJECTS in 40 CFR PART 63

Air pollution control, Hazardous substances, Reporting and recordkeeping requirements.

Dated:

Carol M. Browner,
Administrator

PART 60 - STANDARDS OF PERFORMANCE FOR VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS FROM THE POLYMER MANUFACTURING INDUSTRY

It is proposed that subpart DDD of 40 CFR part 60 be amended to read as follows:

1. The authority citation for Part 60 continues to read as follows:

Authority: Secs. 101, 111, 114, 116, 301, Clean Air Act as amended (42 U.S.C. 7401, 7411, 7414, 7416, 7601).

2. §60.560 is amended by revising paragraph (a), removing paragraphs (a)(2) and (a)(3), revising paragraph (a)(4) and redesignating it as paragraph (a)(2), removing paragraphs (b)(2) and (b)(3), removing paragraphs (e)(1) and (e)(2), and redesignating paragraphs (f), (g), (h) and (i) as paragraphs (e), (f), (g), and (h) respectively, to read as follows:

§60.560 Applicability and designation of affected facilities.

(a) Affected Facilities. The provisions of this subpart apply to affected facilities involved in the manufacture of polypropylene or polyethylene as defined in §60.561 of this subpart. The affected facilities designated below for polypropylene and polyethylene are inclusive of all equipment used in the manufacture of these polymers, beginning with raw materials preparation and ending with product storage, and cover all emissions emanating from such equipment.

(1) * * *

(2) For VOC emissions from equipment leaks from polypropylene and polyethylene manufacturing processes, the affected facilities are each group of fugitive emissions equipment (as defined in §60.161) within any process unit (as defined in §60.561).

* * *

(e) * * *

(f) * * *

(g) * * *

(h) * * *

3. §60.561 is amended by (1) removing the definitions for "end finisher," "expandable polystyrene," "high viscosity poly(ethylene terephthalate)," "in-situ suspension process," "low viscosity poly(ethylene terephthalate)," "poly(ethylene terephthalate)(PET)," "poly(ethylene terephthalate)(PET) manufacturing using dimethyl terephthalate," "poly(ethylene terephthalate)(PET) using terephthalic acid," "polystyrene," and "post-impregnation suspension process," and (2) revising the definitions of "material recovery section," "operating day," "polymerization reaction section," "process line" and "process unit" to read as follows:

§60.561 Definitions.

* * * * *

Material recovery section means the equipment that recovers unreacted or by-product materials from any process section for return to the process line, off-site purification or treatment, or sale. Equipment designed to separate unreacted or by-product material from the polymer product are to be included in this process section, provided at least some of the material is recovered for reuse in the process, off-site purification or treatment, or sale, at the time the process section becomes an affected facility. Otherwise such equipment are to be assigned to one of the other process sections, as appropriate. Equipment that treats recovered materials are to be included in this process section, but equipment that also treats raw materials are not to be included in this process section. The latter equipment are to be included in the raw materials preparation section. If equipment is used to return unreacted or by-product material directly to the same piece of process equipment from which it was emitted, then that equipment is considered part of the process section that contains the process equipment. If equipment is used to recover unreacted or by-product material from a process section and return it to another process section or a different piece of process equipment in the same process section or sends it off-site for purification, treatment, or sale, then such equipment are considered part of a material recovery section.

Operating day means, for the purposes of these standards, any calendar day during which equipment used in the manufacture of polymer was operating for at least 8 hours or one labor shift, whichever is shorter.

Polymerization reaction section means the equipment designed to cause monomer(s) to react to form polymers, including equipment designed primarily to cause the formation of short polymer chains (oligomers or low polymers), but not including equipment designed to prepare raw materials for polymerization, e.g., esterification vessels. For the purposes of these standards, the polymerization reaction section begins with the equipment used to transfer the materials from the raw materials preparation section and ends with the last vessel in which polymerization occurs.

* * *

Process line means a group of equipment assembled that can operate independently if supplied with sufficient raw materials to produce polypropylene, polyethylene, or one of their copolymers. A process line consists of the equipment in the following process sections (to the extent that these process sections are present at a plant): raw materials preparation, polymerization reaction, product finishing, product storage, and material recovery.

* * *

Process unit means equipment assembled to perform any of the physical and chemical operations in the production of polypropylene, polyethylene, or one of their copolymers. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. Examples of process units are raw materials handling and monomer recovery.

* * * * *

4. §60.562-1 is amended by removing paragraphs (b) and (c); redesignating paragraphs (d) and (e) as (b) and (c), respectively; and revising the last sentence of paragraph (a)(2) to read as follows:

§60.562-1 Standards: Process emissions.

(a) * * *

(1) * * *

(2) Intermittent Emissions. The owner or operator shall control each vent stream that emits intermittent emissions from an affected facility as defined in §60.560(a)(1) by meeting one of the control requirements specified in paragraphs (a)(2)(i) and (ii) of this section. If a vent stream that emits intermittent emissions is controlled in an existing flare, incinerator, boiler, or process heater, the requirements of this paragraph are waived until such time the control device is reconstructed or replaced or is modified in its operating conditions as a

result of State or local regulation, including changes in the operating permit. This paragraph does not apply to emergency vent streams exempted by §60.560(f) and as defined in §60.561.

* * *

(b) * * *

(c) * * *

5. §60.564 is amended by removing the words "or (b)(1)(iii)" in paragraph (b); by removing the words "or (b)(1)(iii)" in paragraph (c); by revising the first and last sentences of paragraph (d); by revising the first sentence of paragraph (h); by revising the second sentence of paragraph (h)(1); and by removing paragraphs (i) and (j), to read as follows:

§60.564 Test methods and procedures.

* * * * *

(b) The owner or operator shall determine compliance with the emission concentration standard in §60.562-1(a)(1)(i)(A) if applicable [if not, see paragraph (c) of this section] as follows:

* * *

(c) If paragraph (b) of this section is not applicable, then the owner or operator shall determine compliance with the percent reduction standard in §60.562-1(a)(1)(i)(A) as follows:

* * *

(d) An owner or operator shall determine compliance with the individual stream exemptions in §60.560(f) and the procedures specified in Table 3 for compliance with §60.562-1(a)(1) as identified in paragraphs (d)(1) and (2) of this section. An owner or operator using the procedures specified in §60.562-1(a)(1) for determining which continuous process emissions are to be controlled may use calculations demonstrated to be sufficiently accurate as to preclude the necessity of actual testing for purposes of calculating the uncontrolled annual emissions and weight percent of TOC. Owners or operators seeking to exempt streams under §60.560(f) must use the appropriate test procedures specified in this section.

* * *

(h) The owner or operator shall determine compliance with the mass emission per mass product standards in §60.560(d). The emission rate of TOC shall be computed using the following equation:

* * *

(1) The mass rate of TOC, E_{TOC}, shall be determined according to the procedures, as appropriate, in paragraph (c)(2) of this section. The sampling site for determining compliance with §60.560(d) shall be before any add-on control devices and after all product recovery devices. Otherwise, the sampling site shall be at the outlet of the control device.

(2) * * *

6. §60.565 is amended by revising the second sentence in paragraph (a); removing paragraph (a)(8); redesignating paragraphs (a)(9), (a)(10), and (a)(11) as (a)(8), (a)(9), (a)(10, respectively; revising redesignated paragraph (a)(9); revising paragraph (h); revising the first sentence of paragraph (k); removing paragraph (k)(5); redesignating paragraphs (k)(6) and (k)(7) as (k)(5) and (k)(6), respectively; and revising paragraph (l) to read as follows:

§60.565 Reporting and recordkeeping requirements.

(a) Each owner or operator subject to the provisions of this subpart shall keep an up-to-date, readily-accessible record of the following information measured during each performance test, and shall include the following information in the report of the initial performance test in addition to the written results of such performance tests as required under §60.8. Where a control device is used to comply with §60.562-1(a)(1)(i)(D) only, a report containing performance test data need not be submitted, but a report containing the information in §60.565(a)(10) is required. Where a boiler or process heater with a design heat input capacity of 150 million Btu/hour or greater is used to comply with §60.562-1(a), a report containing performance test data need not be submitted, but a report containing the information in §60.565(a)(2)(i) is required. The same information specified in this section shall be submitted in the reports of all subsequently required performance tests where either the emission control efficiency of a combustion device or the outlet concentration of TOC (minus methane and ethane) is determined.

* * *

(8) * * *

(9) When an owner or operator seeks to comply with the requirements of this subpart by complying with the uncontrolled threshold emission rate cutoff provision in §60.560(d) or with the individual stream exemptions in §60.560(f), each process operation variable (e.g., pressure, temperature, type of catalyst) that may result in an increase in the uncontrolled emission rate, if §60.560(d) is applicable, or in an increase in the uncontrolled annual emissions or the VOC weight percent, as appropriate, if §60.560(f) is applicable, should such operating variable be changed.

(10) * * *

* * *

(h) Each owner or operator of an affected facility that seeks to comply with the requirements of this subpart by complying with the uncontrolled threshold emission rate cutoff provision in §60.560(d) or with the individual stream exemptions in §60.560(f) shall keep for at least 2 years up-to-date, readily accessible records of any change in process operation that increases the uncontrolled emission rate of the process line in which the affected facility is located, if §60.560(d) is applicable, or that increase the uncontrolled annual emissions or the VOC weight percent of the individual stream, if §60.560(f) is applicable.

* * *

(k) Each owner or operator that seeks to comply with the requirements of this subpart by complying with the uncontrolled threshold emission rate cutoff provision of §60.560(d), the individual stream exemptions of §60.560(f), or the requirements of §60.562-1 shall submit to the Administrator semiannual reports of the following recorded information, as applicable. The initial report shall be submitted within 6 months after the initial start-up date.

* * *

(5) * * *

(6) * * *

(l) Each owner or operator subject to the provisions of this subpart shall notify the Administrator of the specific provisions of §60.562 or §60.560(d), as applicable, with which the owner or operator has elected to comply. Notification shall be submitted with the notification of initial startup required by §60.7(a)(3). If an owner or operator elects at a later date to use an alternative provision of §60.562 with which he or she will comply or becomes subject to §60.562 for the first time (i.e., the owner or operator can no longer meet the requirements of this subpart by complying with the uncontrolled threshold emission rate cutoff provision in §60.560(d)), then the owner or operator shall notify the Administrator 90 days before implementing a change and, upon implementing a change, a performance test shall be performed as specified in §60.564.

(m) * * *

7. Footnote a to Table 3 is amended by revising §60.560(g) to read as §60.560(f).

8. In Figure 1, Box 1.2 is amended by revising §60.560(g) to read as §60.560(f).

9. Table 2, Maximum Uncontrolled Threshold Emission Rate, is revised to read as follows:

TABLE 2. Maximum Uncontrolled Threshold Emission Rates[a]

Production Process	Process Section	Uncontrolled Emission Rate, kg TOC/MG product
Polypropylene, liquid phase process	Raw Materials Preparation	0.15[b]
	Polymerization Reaction	0.14[b],0.24[c]
	Material Recovery	0.19[b]
	Product Finishing	1.57[b]
Polypropylene, gas phase process	Polymerization Reaction	0.12[c]
	Material Recovery	0.02[b]
Low Density Polyethylene, high pressure process	Raw Materials Preparation	0.41[d]
	Polymerization Reaction	e
	Material Recovery	e
	Product Finishing	e
	Product Storage	e
Low Density Polyethylene, low pressure process	Raw Materials Preparation	0.05[f]
	Polymerization Reaction	0.03[g]
	Production Finishing	0.01[b]
High Density Polyethylene, liquid phase slurry process	Raw Materials Preparation	0.25[c]
	Material Recovery	0.11[b]
	Product Finishing	0.41[b]
High Density Polyethylene, liquid phase solution process	Raw Materials Preparation	0.24[f]
	Polymerization Reaction	0.16[c]
	Material Recovery	1.68[f]
High Density Polyethylene, gas phase process	Raw Materials Preparation	0.05[f]
	Polymerization Reaction	0.03[g]
	Product Finishing	0.01[b]

[a] "Uncontrolled emission rate" refers to the emission rate of a vent stream that vents directly to the atmosphere and to the emission rate of a vent stream to the atmosphere that would occur in the absence of any add-on control devices but after any material recovery devices that constitute part of the normal material recovery operations in a process line where potential emissions are recovered for recycle or resale.

footnotes for Table 2

[b] Emission rate applies to continuous emissions only.

[c] Emission rate applies to intermittent emissions only.

[d] Total emission rate for non-emergency intermittent emissions from raw materials preparation, polymerization reaction, material recovery, product finishing, and product storage process sections.

[e] See footnote d.

[f] Emission rate applies to both continuous and intermittent emissions.

[g] Emission rate applies to non-emergency intermittent emissions only.

PART 63 — NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR AFFECTED SOURCE CATEGORIES

For the reasons set out in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is proposed to be amended as follows:

1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, et. seq.

2. It is proposed that part 63 be amended by adding subpart V to read as follows:

Subpart V - National Emission Standards for Hazardous Air Pollutant Emissions from the Production of Acrylonitrile Butadiene Styrene (ABS) Resin, Styrene Acrylonitrile (SAN) Resin, Methyl Methacrylate Acrylonitrile Butadiene Styrene (MABS) Resin, Methyl Methacrylate Butadiene Styrene (MBS) Resin, Polystyrene Resin, Poly(ethylene terephthalate) (PET) Resin, and Nitrile Resin.

§63.500 Applicability and designation of affected sources.

(a) Except as provided in paragraphs (a)(4) and (d) of this section, the provisions of this subpart apply to thermoplastic product process units that meet all the criteria specified in paragraphs (a)(1) through (a)(3) of this section:

(1) Manufactures by the process route indicated as a primary product one of the thermoplastic products listed in paragraphs (a)(1)(i) through (a)(1)(xviii) of this section.

(i) poly(ethylene terephthalate) resin using a continuous terephthalic acid process,

(ii) poly(ethylene terephthalate) resin using a batch terephthalic acid process,

(iii) poly(ethylene terephthalate) resin using a continuous dimethyl terephthalate process,

(iv) poly(ethylene terephthalate) resin using a batch dimethyl terephthalate process,

(v) polystyrene resin using a continuous process,

(vi) polystyrene resin using a batch process,

(vii) expandable polystyrene resin,

(viii) acrylonitrile butadiene styrene resin using a continuous emulsion process,

(ix) acrylonitrile butadiene styrene resin using a continuous mass process,

(x) acrylonitrile butadiene styrene resin using a batch emulsion process,

(xi) acrylonitrile butadiene styrene resin using a batch suspension process,

(xii) acrylonitrile butadiene styrene latex resin,

(xiii) styrene acrylonitrile resin using a continuous process,

(xiv) styrene acrylonitrile resin using a batch process,

(xv) acrylonitrile styrene acrylate/alpha methyl styrene acrylonitrile resin,

(xvi) methyl methacrylate acrylonitrile butadiene styrene resin,

(xvii) methyl methacrylate butadiene styrene resin, and

(xviii) nitrile resin.

(2) In the manufacture of the thermoplastic products listed in paragraph (a)(1) of this section, uses as a reactant or manufactures as a by-product or co-product, one or more organic hazardous air pollutant (HAP).

(3) Is located at a plant site that is a major source as defined in §63.2 of subpart A.

(4) For each thermoplastic product process unit that meets the criteria specified in paragraphs (a)(1) and (a)(3) of this section, but does not use as a reactant or manufacture as a by-product or co-product any organic HAP, as specified in paragraph (a)(2) of this section, the owner or operator shall document the basis for this determination. Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or documentation of the process. A thermoplastic product process unit described in this paragraph is not subject to any other provision of this subpart or to any of the provisions of 40 CFR part 63, subpart A.

(b) The source to which this subpart applies (i.e., the affected source) is the collection of the process vents; storage vessels; wastewater and the associated treatment residuals; heat exchange systems; process contact cooling towers; and pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, surge control vessels, and bottoms receivers that are associated with any thermoplastic product process unit that meets the criteria specified in paragraphs (a)(1) through (a)(3) of this section.

(c) The affected source does not include the emission points listed in paragraphs (c)(1) through (c)(6) of this section. This subpart does not require emission points that are not included in the affected source to comply with the provisions of 40 CFR part 63, subpart A.

(1) Stormwater from segregated sewers;

(2) Water from fire-fighting and deluge systems in segregated sewers;

(3) Spills;

(4) Water from safety showers;

(5) Vessels storing organic liquids that contain organic HAP only as impurities;

(6) Equipment that is intended to operate in organic HAP service, as defined in §63.161 of subpart H, for less than 300 hours during the calendar year.

(d) The provisions of this subpart do not apply to the processes specified in paragraphs (d)(1) through (d)(4) of this section. These processes are also not subject to the provisions of 40 CFR part 63, subpart A.

(1) Research and development facilities, regardless of whether the facilities are located at the same plant site as a thermoplastic product process unit that is subject to the provisions of this subpart.

(2) Equipment that is located within a thermoplastic product process unit that is subject to this subpart but does not contain organic HAP.

(3) Solvent reclamation, recovery, or recycling operations at hazardous waste treatment, storage, and disposal (TSDF) facilities requiring a permit under 40 CFR part 270 that are separate entities and not part of a thermoplastic product process unit to which this subpart applies.

(4) Solid state poly(ethylene terephthalate) processes that are not collocated at the same plant site with a thermoplastic product process unit using one of the four poly(ethylene terephthalate) processes specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section.

(e) The primary product of a thermoplastic product process unit shall be determined according to the procedures specified in paragraphs (e)(1) through (e)(3) of this section.

(1) If a thermoplastic product process unit produces more than one intended product, the product with the greatest annual design capacity on a mass basis determines the primary product of the process.

(2) If a thermoplastic product process unit has two or more products that have the same maximum annual design capacity on a mass basis and if one of those products is listed in paragraph (a)(1) of this section, then the listed product is considered the primary product and the thermoplastic product process unit is subject to this subpart. If more than one of the products is listed in paragraph (a)(1) of this section, then the owner or operator may designate as the primary product any of the listed products and the thermoplastic product process unit is subject to this subpart.

(3) For thermoplastic product process units that are designed and operated as flexible operation units, the primary product shall be determined for existing sources based on the expected utilization for the five years following [**insert promulgation date**] and for new sources based on the expected utilization for the first five years after initial start-up.

(i) If the predominant use of the flexible operation unit, as described in paragraphs (e)(3)(i)(A) and (e)(3)(i)(B) of this section, is to produce one or more product listed in paragraph (a)(1) of this section, then the flexible operation unit shall be subject to the provisions of this subpart.

(A) If the flexible operation unit produces one product for the greatest annual operating time, then that product shall represent the primary product of the flexible operation unit.

(B) If the flexible operation unit produces multiple products equally based on operating time, then the product with the greatest annual production on a mass basis shall represent the primary product of the flexible operation unit.

(ii) The determination of applicability of this subpart to thermoplastic product process units that are designed and operated as flexible operation units shall be reported in the Implementation Plan required by §63.513(b)(3).

(f) The owner or operator shall follow the procedures specified in paragraphs (f)(1) and (f)(2) of this section to determine whether a storage vessel is part of the source to which this subpart applies.

(1) Where a storage vessel is used exclusively by a process unit, the storage vessel shall be considered part of that process unit.

(i) If the process unit is subject to this subpart according to the criteria specified in paragraph (a) of this section, then the storage vessel is part of the thermoplastic product process unit to which this subpart applies.

(ii) If the process unit is not subject to this subpart according to the criteria specified in paragraph (a) of this section, then the storage vessel is not part of the source to which this subpart applies.

(2) If a storage vessel is not dedicated to a single process unit, then the applicability of this subpart shall be determined according to the provisions in paragraphs (f)(2)(i) through (f)(2)(iv) of this section.

(i) If a storage vessel is shared among process units and one of the process units has the predominant use, as determined by paragraphs (f)(2)(i)(A) and (f)(2)(i)(B) of this section, then the storage vessel is part of that process unit with the predominant use.

(A) If the greatest input into or output from the storage vessel is attributable to a process unit that is located on the same plant site, then that process unit has the predominant use.

(B) If the greatest input into or output from the storage vessel is attributable to a process unit that is not located on the same plant site, then the process unit on the same plant site has the predominant use.

(ii) If a storage vessel is shared among process units so that there is no single predominant use, and at least one of those process units is a thermoplastic product process unit subject to this subpart, the storage vessel shall be considered to be part of the thermoplastic product process unit that is subject to this subpart. If more than one process unit is subject to this subpart, the owner or operator may assign the storage vessel to any of the thermoplastic product process units subject to this subpart.

(iii) If the predominant use of a storage vessel varies from year to year, then the applicability of this subpart shall be determined based on the utilization that occurred during the year preceding [**insert promulgation date**]. This determination shall be reported in the Implementation Plan required by §63.513(b)(3).

(iv) If there is a change in the material stored in the storage vessel, the owner or operator shall recalculate the applicability of this subpart to the vessel.

(g) The provisions of this paragraph apply to existing plant sites that either add thermoplastic product process units or that make changes to existing thermoplastic product process units.

(1) New source requirements for additions to existing plant sites. If a thermoplastic product process unit meeting the criteria specified in paragraph (a) of this section is added to a plant site that is a major source as defined in section 112(a) of the Clean Air Act (Act), the addition shall be subject to the requirements for a new

source in this subpart upon initial start-up or by [**insert promulgation date**], whichever is later, if:

(i) It is an addition that meets the definition of construction in §63.2 of subpart A; and

(ii) Such construction commenced after [**insert proposal date**].

(2) <u>New source requirements for changes to existing thermoplastic product process units</u>. If any change is made to an existing thermoplastic product process unit subject to this subpart, the change shall be subject to the requirements of a new source in this subpart upon initial start-up or by [**insert promulgation date**], whichever is later, if:

(i) It is a change that meets the definition of reconstruction in §63.2 of subpart A; and

(ii) Such reconstruction commenced after [**insert proposal date**].

(3) <u>Existing source requirements for additions to plant sites or changes to existing thermoplastic product process units</u>. If a thermoplastic product process unit is added to a plant site, or if an emission point is added to an existing thermoplastic product process unit, or if an operational process change creating one or more additional Group 1 emission point(s) is made to an existing thermoplastic product process unit, and if the addition or change is not subject to the new source requirements as

determined according to either paragraph (g)(1) or (g)(2) of this section, the requirements in paragraphs (g)(3)(i) through (g)(3)(iii) of this section shall apply. Examples of operational process changes include, but are not limited to, changes in production capacity, feedstock type, or catalyst type, or whenever there is a replacement, removal, or the addition of recovery equipment. For purposes of this paragraph and paragraph (h) of this section, process changes do not include: process upsets, unintentional temporary process changes, and changes that are within the equipment configuration and operating conditions documented in the Notification of Compliance Status required by §63.513(b)(5).

(i) The added emission point(s) and any emission point(s) within the added or changed thermoplastic product process unit are subject to the requirements of this subpart for an existing source.

(ii) The added emission point(s) and any emission point(s) within the added or changed thermoplastic product process unit shall be in compliance with this subpart by the dates specified in paragraphs (g)(3)(ii)(A) or (g)(3)(ii)(B) of this section, as applicable.

(A) If a thermoplastic product process unit is added to a plant site or an emission point(s) is added to an existing thermoplastic product process unit, the added emission point(s) shall be in compliance upon initial start-up of the added thermoplastic product process unit or emission point(s) or by 3 years after [**insert promulgation date**], whichever is later.

(B) If a deliberate operational process change to an existing thermoplastic product process unit causes a Group 2 emission point to become a Group 1 emission point, the owner or operator shall be in compliance upon initial start-up or by 3 years after [**insert promulgation date**] unless the owner or operator demonstrates to the Administrator or Administrator’s designee, hereafter referred to as Administrator, that achieving compliance will take longer than making the change. If this demonstration is made to the Administrator’s satisfaction, the owner or operator shall follow the procedures in paragraphs (h)(1) through (h)(3) of this section to establish a compliance date.

(iii) The owner or operator of a thermoplastic product process unit or emission point that is added to a plant site and is subject to the requirements for existing sources shall comply with the recordkeeping and reporting requirements contained in §63.513 that are applicable to existing sources. A change to an existing thermoplastic product process unit shall be subject to the recordkeeping and reporting requirements contained in §63.513 that are applicable to existing sources if the change meets the criteria specified in §63.118(g), (h), (i), or (j) of subpart G for process vents or the criteria in either

§63.513(b)(3)(iv) or (b)(4)(iv) or both of this subpart for Implementation Plan or Emissions Averaging Plan updates.

(h) Existing source requirements for Group 2 emission points that become Group 1 emission points. If a change that does not meet the criteria in paragraph (g)(3) of this section is made to a thermoplastic product process unit subject to this subpart, and the change causes a Group 2 emission point to become a Group 1 emission point, then the owner or operator shall comply with the requirements of this subpart for existing Group 1 emission points as expeditiously as practicable, but in no event later than 3 years after the emission point becomes a Group 1 emission point.

(1) The owner or operator shall submit to the Administrator for approval a compliance schedule, along with a justification for the schedule.

(2) The compliance schedule shall be submitted with the Emissions Averaging Plan update required in §63.513(b)(4)(iv) for emission points included in an emissions average or the Implementation Plan update required in §63.513(b)(3)(iv) for emission points not in an emissions average, unless the compliance schedule has been submitted in an operating permit application or amendment.

(3) The Administrator shall approve the compliance schedule or request changes within 120 calendar days of receipt of the compliance schedule and justification.

(i) The provisions set forth in this subpart shall apply at all times except during periods of start-up, shutdown, and malfunction (as defined in §63.2 of subpart A). However, if a start-up, shutdown, or malfunction of one portion of a thermoplastic product process unit does not affect the ability of a particular emission point to comply with the specific provisions to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this subpart during the start-up, shutdown, or malfunction. For example, if there is an overpressure in the reactor area, a storage vessel in the thermoplastic product process unit would still be required to be controlled in accordance with §63.504. Similarly, the degassing of a storage vessel would not affect the ability of a continuous process vent to meet the requirements of §63.505.

(j) The provisions set forth in subpart H of this part shall apply at all times except during periods of start-up, and malfunction (as defined in §63.2 of subpart A), and process unit shutdown (as defined in §63.161 of subpart H).

§63.501 Compliance schedule and relationship to existing applicable rules.

Sources subject to this subpart are required to achieve compliance on or before the dates specified in paragraphs (a) through (c) of this section. Paragraphs (d) through (g) of this section discuss the relationship of this subpart to other applicable rules.

(a) New sources that commence construction or reconstruction after [**insert proposal date**] shall be in compliance with this subpart upon initial start-up or [**insert promulgation date**], whichever is later, as provided in §63.6(b) of subpart A.

(b) Existing sources shall be in compliance with this subpart (except for §63.509 for which compliance is covered by paragraph (c) of this section) no later than 3 years after [**insert promulgation date**], as provided in §63.6(c) of subpart A, unless an extension has been granted as provided in §63.6(i) of subpart A.

(c) Existing sources shall be in compliance with §63.509 no later than [**insert date 6 months after the promulgation date**] unless a request for a compliance extension is granted pursuant to section 112(i)(3)(B) of the Act, as discussed in §63.182(a)(6) of subpart H, except as provided for in paragraphs (c)(1) through (c)(4) of this section.

(1) Existing thermoplastic product process units shall be in compliance with the compressor provisions of §63.164 of subpart H no later than [**insert date six months after the compliance date**] for any compressor meeting one or more of the criteria in paragraphs (c)(1)(i) through (c)(1)(iii) of this section, if the work can be accomplished without a process unit shutdown, as defined in §63.161 of subpart H.

(i) The seal system will be replaced;

(ii) A barrier fluid system will be installed; or

(iii) A new barrier fluid will be utilized which requires changes to the existing barrier fluid system.

(2) Existing thermoplastic product process units shall be in compliance with the compressor provisions of §63.164 of subpart H no later than [**insert date one year after the compliance date**], for any compressor meeting the criteria in paragraphs (c)(2)(i) through (c)(2)(iv) of this section.

(i) The compressor meets one or more of the criteria specified in paragraphs (c)(1)(i) through (c)(1)(iii) of this section;

(ii) The work can be accomplished without a process unit shutdown as defined in §63.161 of subpart H;

(iii) The additional time is actually necessary due to the unavailability of parts beyond the control of the owner or operator; and

(iv) The owner or operator submits the request for a compliance extension to the Environmental Protection Agency

(EPA) Regional Office at the addresses listed in §63.13 of subpart A no later than 45 days before [**insert date 6 months after the promulgation date**]. The request for a compliance extension shall contain the information specified in paragraphs (c)(2)(iv)(A) through (c)(2)(iv)(E) of this section. Unless the EPA Regional Office objects to the request for a compliance extension within 30 days after receipt, the request shall be deemed approved.

(A) The name and address of the owner or operator and the address of the existing source if it differs from the address of the owner or operator;

(B) The name, address, and telephone number of a contact person for further information;

(C) An identification of the thermoplastic product process unit, and of the specific equipment for which additional compliance time is required;

(D) The reason compliance can not reasonably be achieved by [**insert date 6 months after the promulgation date**]; and

(E) The date by which the owner or operator expects to achieve compliance.

(3) If compliance with the compressor provisions of §63.164 of subpart H cannot reasonably be achieved without a process unit shutdown, as defined in §63.161 of subpart H, the owner or operator shall achieve compliance no later than [**insert date 2 years after the promulgation date**]. The

owner or operator who elects to use this provision shall submit a request for a compliance extension in accordance with the requirements of paragraph (c)(2)(iv) of this section.

(4) Existing sources shall be in compliance with the provisions of §63.170 of subpart H no later than [**insert date 3 years after the promulgation date**].

(d) Affected sources subject to 40 CFR part 63, subpart I shall continue to comply with 40 CFR part 63, subpart I until the compliance dates specified in paragraph (c) of this section become applicable.

(1) After the compliance dates specified in paragraph (c) of this section, the affected source shall no longer be subject to 40 CFR part 63, subpart I.

(2) Affected sources subject to 40 CFR part 63, subpart I of this part that have elected to comply through a quality improvement program, as specified in §63.175 or §63.176 or both of subpart H, may elect to continue these programs without interruption as a means of complying with this subpart. In other words, becoming subject to this subpart does not restart or reset the "compliance clock" as it relates to reduced burden earned through a quality improvement program.

(e) After the compliance dates specified in this section, a storage vessel at an affected source that is also subject to the provisions of 40 CFR part 60, subpart Kb is required to comply only with the provisions of this subpart.

(f) After the compliance dates specified in this section, affected sources producing poly(ethylene terephthalate) using either a continuous TPA or DMT process as listed in §63.500(a)(1)(i) and (a)(1)(iii) and affected sources producing polystyrene using a continuous process as listed in §63.500(a)(1)(v) that are also subject to the provisions of 40 CFR part 60, subpart DDD are required to comply only with the provisions of this subpart.

(g) Sources subject to this subpart that are also subject to the provisions of 40 CFR part 63, subpart Q shall comply with both subparts.

§63.502 Definitions.

The following terms as used in this subpart shall have the meaning given them in 40 CFR part 63, subpart A: Act; Administrator; commenced; compliance date; compliance schedule; construction; continuous monitoring system; emission standard; emissions averaging; EPA; existing source; hazardous air pollutant; lesser quantity; major source; malfunction; new source; owner or operator; performance evaluation; performance test; permitting authority; potential to emit; reconstruction; run; shutdown; start-up; state; test method; and visible emission.

The following terms as used in this subpart shall have the meaning given them in 40 CFR part 63, subpart F: by-product; chemical manufacturing process unit; co-product; emission point; equipment leak; flexible operation unit; heat exchange system; operating permit; plant site; process vent; process wastewater; product reactor; recovery device; start-up, shutdown, and malfunction plan; storage vessel; unit operation; and wastewater.

The following terms as used in this subpart shall have the meaning given them in 40 CFR part 63, subpart G: automated monitoring and recording system; average concentration; average flow rate; boiler; by compound; car-seal; closed-vent system; combustion device; continuous record; continuous recorder; control device; cover; external floating roof; fill; fixed roof; flame zone; floating roof; flow indicator; halogens and hydrogen halides; incinerator; internal floating roof; mass flow rate; maximum true vapor pressure; organic monitoring device; point of generation; primary fuel; process heater; process wastewater stream; reactor; recovery device; relief valve; residual; secondary fuel; specific gravity monitoring device; temperature monitoring device; total resource effectiveness index value; treatment process; vent stream; waste management unit; and wastewater stream.

The following terms as used in this subpart shall have the meaning given them in 40 CFR part 63, subpart H: bottoms receiver; connector; equipment; in organic hazardous air pollutant; instrumentation system; open-ended valve or line; process unit shutdown; sensor; and surge control vessel.

If a term is defined in a subpart referenced above and in this section, it shall have the meaning given in this section for purposes of this subpart.

Acrylonitrile butadiene styrene latex resin or ABS latex means an acrylonitrile butadiene styrene resin produced through an emulsion process, however the product is not coagulated or dried as typically occurs in an emulsion process.

Acrylonitrile butadiene styrene resin or ABS means styrenic terpolymers consisting primarily of acrylonitrile, 1,3-butadiene, and styrene monomer units. Acrylonitrile butadiene styrene resin is usually composed of a styrene-acrylonitrile copolymer continuous phase with dispersed butadiene derived rubber.

Acrylonitrile styrene acrylate resin or ASA means a resin formed using acrylic ester-based elastomers to impact-modify styrene acrylonitrile resin matrices.

Aggregate batch vent stream means a stream containing the exhausts from two or more batch process vents that are ducted together before being routed to a control device in continuous operation. If a batch process vent is combined with a continuous process vent, then the vent stream is a continuous vent stream, and not an aggregate batch vent stream.

Affected source means all thermoplastic product process units at a plant site that produce one of the thermoplastic product types identified in §63.500(a)(1). If a process unit produces more than one thermoplastic product type in the same equipment, then that process unit shall be a single affected source. If more than one thermoplastic product type is produced at a plant site, and no equipment other than raw material storage vessels are shared between the process units, the number of affected sources equals the number of different thermoplastic product types produced.

Alpha methyl styrene acrylonitrile resin or AMSAN means copolymers consisting primarily of alpha methyl styrene and acrylonitrile.

Average flowrate is defined as the flowrate averaged over the amount of time that organic HAP are emitted during a batch emission episode.

Batch emission episode means a discrete venting episode that may be associated with a single unit operation. For example, a displacement of vapor resulting from the charging of a vessel with organic HAP will result in a discrete emission episode that will last through the duration of the charge and will have an average flowrate equal to the rate of the charge. If the vessel is then heated, there will also be another discrete emission episode resulting from the expulsion of expanded vessel vapor space. Multiple emission episodes may occur in the same vessel or unit operation.

Batch process vent or batch vent stream means a point of emission from a batch unit operation.

Batch process refers to a discontinuous process involving the bulk movement of material through sequential manufacturing steps. Mass, temperature, concentration, and other properties of the process vary with time. Addition of raw material and withdrawal of product do not typically occur simultaneously in a batch process.

Batch unit operation means a unit operation operated in a batch mode, characterized by the bulk movement of material in a discontinuous manner. Addition of raw material and withdrawal of product do not typically occur simultaneously in a batch unit operation.

Batch cycle refers to a manufacturing event of an intermediate or product from start to finish in a batch unit operation.

Batch cycle limitation means an enforceable restriction on the number of batch cycles that can be performed in a year for an individual batch process vent. An owner or operator of a Group 2 batch process vent with annual organic HAP emissions greater than 225 kilograms per year must establish a batch cycle limitation for that individual batch process vent which ensures that either: (1) annual organic HAP emissions remain below the levels specified in §63.506-2(d), or (2) annual emissions do not increase to a degree that causes the vent to become a Group 1 batch process vent, as determined in accordance with §63.506-2(f) and (g). A batch cycle limitation does not limit production to any previous level, but is based on the number of cycles necessary to exceed one of the two batch process vent applicability criteria discussed above.

Compounding unit means a unit which blends, melts, and resolidifies solid polymers for the purpose of incorporating additives, colorants, and stabilizers into the final thermoplastic product. A unit whose primary purpose is to remove residual monomers from polymers is not a compounding unit.

Continuous process vent or continuous vent stream means a point of emission from a continuous unit operation.

Continuous process means a process where the inputs and outputs flow continuously through sequential manufacturing steps throughout the duration of the process. Continuous processes are typically steady-state. Continuous processes typically involve the simultaneous addition of raw material and withdrawal of product.

Continuous unit operation means a unit operation operated in a continuous mode, characterized by the continuous flow of material into and out of the equipment making up the unit operation.

Controlled batch emission episode means a batch emission episode that is controlled using a control or recovery device in order to meet the percent reduction requirements for the batch cycle for Group 1 batch process vents in §63.506-1(a)(2).

Emission point means an individual continuous process vent, batch process vent, storage vessel, wastewater stream, equipment leak, or heat exchange system, including process contact cooling towers.

Emulsion process means a process (e.g., polymerization reaction) carried out with the reactants in emulsified form.

Expandable polystyrene resin or EPS resin means a polystyrene bead to which a blowing agent has been added using either an in-situ suspension process or a post-impregnation suspension process.

Flexible operation unit means a thermoplastic product process unit that manufactures different products periodically by alternating raw materials or operating conditions. These units are also referred to as campaign plants or blocked operations.

Group 1 batch process vent means a batch process vent with annual organic HAP emissions greater than levels specified in §63.506-2(d), whose cutoff flow rate, calculated in accordance with §63.506-2(f), is greater than, or equal to, the annual average flow rate, determined in accordance with §63.506-2(e).

Group 2 batch process vent means a batch process vent with annual organic HAP emissions greater than levels specified in §63.506-2(d), that is not a Group 1 batch process vent, or a batch process vent with annual organic HAP emissions less than, or equal to, levels specified in §63.506-2(d).

Group 1 continuous process vent means a continuous process vent for which the flow rate is greater than or equal to 0.005 standard cubic meter per minute, the total organic HAP concentration is greater than or equal to 50 parts per million by volume, and the total resource effectiveness index value, calculated according to §63.115 of subpart G, is less than or equal to 1.0, or for existing sources producing methyl methacrylate butadiene styrene resin as listed in §63.500(a)(1)(xvii) only, less than or equal to 3.7.

Group 2 continuous process vent means a continuous process vent for which the flow rate is less than 0.005 standard cubic meter per minute, the total organic HAP concentration is less than 50 parts per million by volume, or the total resource effectiveness index value, calculated according to §63.115 of subpart G, is greater than 1.0, or for existing sources producing methyl methacrylate butadiene styrene resin as listed in §63.500 (a)(1)(xvii) only, greater than 3.7.

Group 1 storage vessel means a storage vessel that meets the criteria for design storage capacity and stored-liquid maximum true vapor pressure specified in Table 1 or 1a of this subpart for storage vessels at existing sources, and in Table 2 or 2a of this subpart for storage vessels at new sources as appropriate.

Group 2 storage vessel means a storage vessel that does not meet the definition of a Group 1 storage vessel.

Group 1 and Group 2 wastewater streams are defined in §63.111 of subpart G.

Halogenated aggregate batch vent stream means an aggregate batch vent stream determined to have a total mass emission rate of halogen atoms contained in organic compounds of 3,750 kilograms per year or greater determined by the procedures presented in §63.506-2(h). The total mass emission rate of halogen atoms for the aggregate batch vent stream shall be the sum of the mass emission rates of all batch process vents in the aggregate stream.

Halogenated batch process vent means a batch process vent determined to have a mass emission rate of halogen atoms contained in organic compounds of 3,750 kilograms per year or greater determined by the procedures presented in §63.506-2(h).

High volatility batch process vent, or high volatility vent, means a batch process vent with a weighted-average vapor pressure at 20°C, as determined using the equation in §63.506-2(c), of 20 kilopascals or greater.

Low volatility batch process vent, or low volatility vent, means a batch process vent with a weighted-average vapor pressure at 20°C, as determined using the equation in §63.506-2(b), of less than 10 kilopascals.

Mass process means a process (e.g., polymerization reaction) carried out through the use of thermal energy and the bulk introduction of reactants to the reactor vessel. Mass processes do not utilize emulsifying or suspending agents, but can utilize catalysts or other additives.

Material recovery section means the equipment that recovers unreacted or by-product materials from any process section for return to the process line, off-site purification or treatment, or sale. Equipment designed to separate unreacted or by-product material from the polymer product are to be included in this process section, provided at least some of the material is recovered for reuse in the process, off-site purification or treatment, or sale, at the time the process section becomes an affected facility. Otherwise such equipment are to be assigned to one of the other process sections, as appropriate. Equipment that treats recovered materials are to be included in this process section, but equipment that also treats raw materials are not to be included in this process section. The latter equipment are to be included in the raw materials preparation section. If equipment is used to return unreacted or by-product material directly to the same piece of process equipment from which it was emitted, then that equipment is considered part of the process section that contains the process equipment. If equipment is used to recover unreacted or by-product material from a process section and return it to another process section or a different piece of process equipment in the same process section or sends it off-site for purification, treatment, or sale, then such equipment are considered part of a material recovery section. Equipment used for the on-site recovery of ethylene glycol from poly(ethylene terephthalate) plants, however, are not included in the material recovery section, but are covered under the standards applicable to the polymerization reaction section [§60.562-1(c)(1)(ii)(A) or (c)(2)(ii)(A)].

Methyl methacrylate acrylonitrile butadiene styrene resin or MABS means styrenic polymers containing methyl methacrylate, acrylonitrile, butadiene, and styrene. The methyl methacrylate acrylonitrile butadiene styrene copolymers are prepared by dissolving or dispersing polybutadiene rubber in a mixture of methyl methacrylate-acrylonitrile-styrene and butadiene monomer. The graft polymerization is carried out by a bulk or a suspension process.

Methyl methacrylate butadiene styrene resin or MBS means styrenic polymers containing methyl methacrylate, butadiene, and styrene. Production of methyl methacrylate butadiene styrene terpolymers is achieved using an emulsion process in which methyl methacrylate and styrene are grafted onto a styrene-butadiene rubber.

Moderate volatility batch process vent, or moderate volatility vent, means a batch process vent with a weighted-average vapor pressure at 20°C, as determined using the equation in §63.506-2(b), of 10 kilopascals or greater, but less than 20 kilopascals.

Nitrile resin means a resin produced through the polymerization of acrylonitrile, methyl acrylate, and butadiene latex using an emulsion process.

Organic hazardous air pollutant or organic HAP means one of the 189 hazardous air pollutants identified in the Act and commonly considered to be organic. A chemical is considered to be organic if it contains one or more carbon atoms.

Poly(ethylene terephthalate) resin or PET means a polymer or copolymer comprised of at least 50 percent bis-(2-hydroxyethyl)-terephthalate (BHET) by weight.

Poly(ethylene terephthalate) resin production using a dimethyl terephthalate process means the manufacturing of poly(ethylene terephthalate) based on the esterification of dimethyl terephthalate (DMT) with ethylene glycol to form the intermediate monomer BHET that is subsequently polymerized to form poly(ethylene terephthalate.

Solid state processes collocated at the same plant site with poly(ethylene terephthalate processes are considered to be part of the affected source, and equipment and emission points associated with these solid state processes are subject to the provisions applicable to poly(ethylene terephthalate production in this subpart.

Poly(ethylene terephthalate) resin production using a terephthalic acid process means the manufacturing of poly(ethylene terephthalate) based on the esterification reaction of terephthalic acid (TPA) with ethylene glycol to form the intermediate monomer bis-(2-hydroxyethyl)-terephthalate that is subsequently polymerized to form poly(ethylene terephthalate. Solid state processes collocated at the same plant site with poly(ethylene terephthalate processes are considered to be part of the affected source, and equipment and emission points associated with these solid state processes are subject to the provisions applicable to poly(ethylene terephthalate production in this subpart.

Polymerization reaction section means the equipment designed to cause monomer(s) to react to form polymers, including equipment designed primarily to cause the formation of short polymer chains (oligomers or low polymers), but not including equipment designed to prepare raw materials for polymerization, e.g., esterification vessels. For the purposes of these standards, the polymerization reaction section begins with the equipment used to transfer the materials from the raw materials preparation section and ends with the last vessel in which polymerization occurs. Equipment used for the on-site recovery of ethylene glycol from poly(ethylene terephthalate) plants, however, are included in this process section, rather than in the material recovery process section.

Polystyrene resin means a thermoplastic polymer or copolymer comprised of at least 80 percent styrene or para-methylstyrene by weight.

Process contact cooling tower means a cooling tower system that is designed to allow contact between the cooling medium and process fluid or gases.

Process unit means all the equipment that is assembled and connected by pipes or ducts to process raw materials and to manufacture an intended thermoplastic product type that is listed in §63.500(a)(1). If the same equipment is used to produce more than one thermoplastic product type, then this equipment and associated pipes, ducts, etc. is considered to be a single process unit. This does not apply to situations where the only equipment shared are raw material storage vessels.

Process vent or vent stream means a point of emission from a unit operation. Typical process vents include condenser vents, dryer vents, vacuum pumps, steam ejectors, and atmospheric vents from reactors and other process vessels. Process vents exclude relief valve discharges and leaks from equipment regulated under §63.509.

Product means a compound or thermoplastic product which is manufactured as the intended product of the thermoplastic product process unit. By-products, isolated intermediates, impurities, wastes, and trace contaminants are not considered products.

Raw materials preparation section means the equipment located at a polymer manufacturing plant designed to prepare raw materials, such as monomers and solvents, for polymerization. For the purposes of these standards, this process section begins with the equipment used to transfer raw materials from storage and recovered material from material recovery process sections, and ends with the last piece of equipment that prepares the material for polymerization. The raw materials preparation section may include equipment that accomplishes purification, drying, or other treatment of raw materials or of raw and recovered materials together, activation of catalysts, and esterification including the formation of some short polymer chains (oligomers), but does not include equipment that is designed primarily to accomplish the formation of oligomers, the treatment of recovered materials alone, or the storage of raw materials.

Solid state process as it relates to the production of poly(ethylene terephthalate) means the process that takes low molecular weight poly(ethylene terephthalate) and increases the degree of polymerization to produce a high molecular weight poly(ethylene terephthalate).

Steady state means that all variables (temperatures, pressures, volumes, flow rates, etc.) in a process do not change with time, except possibly for minor fluctuations about constant mean values.

Storage vessel means a tank or other vessel that is used to store liquids that contain one or more organic HAP. Storage vessel does not include:

(1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(3) Vessels with capacities smaller than 38 cubic meters;

(4) Vessels storing organic liquids that contain organic hazardous air pollutants only as impurities;

(5) Bottoms receiver tanks; and

(6) Wastewater storage tanks. Wastewater storage tanks are covered under the wastewater provisions.

Styrene acrylonitrile resin or SAN means copolymers consisting primarily of styrene and acrylonitrile monomer units.

Suspension process means a process (e.g., polymerization reaction) carried out with the reactants in a state of suspension, typically achieved through the use of water and/or suspending agents.

<u>Thermoplastic product process unit</u> means the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended thermoplastic product listed in §63.500(a)(1). For the purpose of this subpart, thermoplastic product process unit includes all the equipment identified in §63.500(b). A thermoplastic product process unit is identified by its primary product. A compounding unit is not part of the thermoplastic product process unit.

<u>Unit operation</u> means one or more pieces of process equipment used to make a single change to the physical or chemical characteristics of one or more process streams. Unit operations include, but are not limited to, batch and continuous reactors, distillation columns, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

<u>Year</u> means any consecutive 12 month period or 365 rolling days. For the purposes of emissions averaging, the term year applies to any 12 month period selected by the facility and defined in its period selected by the facility and defined in its Emissions Averaging Plan. For the purposes of batch cycle limitations, the term year applies to the 12 month period defined by the facility in its Implementation Plan.

§63.503 Emission standards.

(a) Except as allowed for those sections identified in paragraph (b) of this section, the owner or operator of an existing or new source subject to the requirements of this subpart shall comply with the provisions in:

(1) §63.504 for storage vessels,

(2) §63.505 for continuous process vents,

(3) §63.506 for batch process vents,

(4) §63.507 for heat exchange systems and contact cooling towers,

(5) §63.508 for wastewater,

(6) §63.509 for equipment leaks,

(7) §63.511 for additional test methods and procedures,

(8) §63.512 for parameter monitoring levels and excursions, and

(9) §63.513 for general reporting and recordkeeping requirements.

(b)(1) Instead of complying with §§63.504, 63.505, 63.507-2, and 63.508, the owner or operator of an existing source may elect to control some or all of the storage vessels, continuous process vents, process contact cooling towers, and process wastewater streams (including vacuum system wastewater at existing PET facilities) within the affected source to different levels using an emissions averaging compliance approach that uses the procedures specified in §63.510. An owner or operator electing to use emissions averaging must still comply with the provisions of §§63.504, 63.505, 63.507.2, and 63.508 for emission points not included in the emissions average.

(2) A State may decide not to allow the use of the emissions averaging compliance approach specified in paragraph (b)(1) of this section as a compliance option for an existing source.

§63.504 Storage vessel provisions.

(a) Except as provided in paragraphs (b) and (c) of this section, for each storage vessel located at an affected source, the owner or operator shall comply with the requirements of §§63.119 through 63.123 and 63.148 of subpart G, with the differences noted in paragraphs (a)(1) through (a)(14) of this section.

(1) When the term "storage vessel" is used in §§63.119 through 63.123 and 63.148 of subpart G, the definition in §63.502 shall apply.

(2) When the term "Group 1 storage vessel" is used in §§63.119 through 63.123 and 63.148 of subpart G, the definition in §63.502, and Tables 1, 1a, 2, and 2a shall apply.

(3) When the term "Group 2 storage vessel" is used in §§63.119 through 63.123 and 63.148 of subpart G, the definition in §63.502 shall apply.

(4) The compliance date for storage vessels at affected sources is provided in §63.501. This replaces references to §63.100 of subpart F in §63.119 and §63.120 of subpart G.

(5) When the emissions averaging provisions of §63.150 of subpart G are referred to in §63.119 and §63.123 of subpart G, the emissions averaging provisions for this subpart, which are contained in §63.510, shall apply.

(6) When December 31, 1992 is referred to in §63.119 of subpart G, it shall be replaced with [**insert proposal date**].

(7) When April 22, 1994 is referred to in §63.119 of subpart G, it shall be replaced with [**insert promulgation date**].

(8)(i) Each owner or operator shall comply with this paragraph instead of §63.120(d)(1)(ii) of subpart G. If the control device used to comply with this section is also used to comply with §§63.505 through 63.508, the performance test required for these sections is acceptable for demonstrating compliance with §63.119(e) of subpart G. The owner or operator is not required to prepare a design evaluation for the control device as described in §63.120(d)(1)(i) of subpart G, if the performance test meets the criteria specified in §63.120(d)(1)(ii)(A) and (d)(1)(ii)(B) of subpart G.

(ii) When the term "operating range" is used in §63.120(d)(3) of subpart G, it shall be replaced with the term "level." This level shall be established using the procedures specified in §63.512.

(9) When the Notification of Compliance Status requirements contained in §63.152(b) of subpart G are referred to in §§63.120, 63.122, and 63.123 of subpart G, the Notification of Compliance Status requirements for this subpart, which are contained in §63.513(b)(7), shall apply.

(10) When the Periodic Report requirements contained in §63.152(c) of subpart G are referred to in §§63.120, 63.122, and 63.123 of subpart G, the Periodic Report requirements for this subpart, which are contained in §63.513(b)(6), shall apply.

(11) When the reporting requirements contained in §63.152(d) of subpart G are referred to in §63.122 of subpart G, the reporting requirements for this subpart, which are contained in §63.513(b)(8) shall apply.

(12) When the Implementation Plan requirements contained in §63.151(c) of subpart G are referred to in §63.120 and §63.122 of subpart G, the Implementation Plan requirements for this subpart, which are contained in §63.513(b)(2), (b)(3), or (b)(4), as applicable, shall apply.

(13) When the Initial Notification plan requirements contained in §63.151(b) of subpart G are referred to in

§63.122 of subpart G, the Initial Notification requirements for this subpart, which are contained in §63.513(b)(1), shall apply.

(14) When the determination of equivalence criteria in §63.102(b) of subpart F is referred to in §63.121(a) of subpart G, the provisions in §63.6(g) of subpart A shall apply.

(b) Owners or operators of Group 1 storage vessels at new sources producing SAN using a continuous process, as listed in §63.500(a)(1)(xiii), shall control emissions to the levels indicated in paragraphs (b)(1) and (b)(2) of this section.

(1) For storage vessels with capacities greater than or equal to 2,271 cubic meters (m^3) with vapor pressure greater than or equal to 0.5 kilopascal (kPa) but less than 0.7 kPa, emissions shall be controlled by at least 90 percent relative to uncontrolled emissions.

(2) For storage vessels with capacities greater than or equal to 30 m^3 but less than 151 m^3 and vapor pressure greater than or equal to 10 kPa, emissions shall be controlled by at least 98 percent relative to uncontrolled emissions.

(c) Owners or operators of Group 1 storage vessels at new or existing sources producing ASA/AMSAN, as listed in §63.500(a)(1)(xv), shall control emissions by at least 98 percent relative to uncontrolled emissions.

§63.505 Continuous process vent provisions.

(a) Except as provided in paragraphs (b) through (e) of this section, for each continuous process vent located at an affected source, the owner or operator shall comply with the requirements of §§63.113 through 63.118 of subpart G, with the differences noted in paragraphs (a)(1) through (a)(12) of this section.

(1) When the term "process vent" is used in §§63.113 through 63.118 of subpart G, it shall be replaced with the term "continuous process vent," and the definition of this term in §63.502 shall apply.

(2) When the term "Group 1 process vent" is used in §§63.113 through 63.118 of subpart G, it shall be replaced with the term "Group 1 continuous process vent," and the definition of this term in §63.502 shall apply.

(3) When the term "Group 2 process vent" is used in §§63.113 through 63.118 of subpart G, it shall be replaced with the term "Group 2 continuous process vent," and the definition of this term in §63.502 shall apply.

(4) When December 31, 1992 is referred to in §63.113 of subpart G, it shall be replaced with [**insert proposal date**].

(5) When §§63.151(f) and 63.152(e) of subpart G are referred to in §§63.114(c) and 63.117(e) of subpart G, §63.513(d) and §63.513(c), respectively, shall apply.

(6) When the Notification of Compliance Status requirements contained in §63.152(b) of subpart G are referred to in §§63.114, 63.117, and 63.118 of subpart G, the Notification of Compliance Status requirements for this subpart, which are contained in §63.513(b)(5), shall apply.

(7) When the Periodic Report requirements contained in §63.152(c) of subpart G are referred to in §§63.117 and 63.118 of subpart G, the Periodic Report requirements for this subpart, which are contained in §63.513(b)(6), shall apply.

(8) When §63.152(c)(2)(ii)(A) of subpart G is referred to in §63.118(f)(2) of subpart G, §63.512(c)(1) shall apply.

(9) The compliance date for continuous process vents is provided in §63.501. This replaces the reference to §63.100 of subpart F in §63.115 of subpart G.

(10) Owners and operators shall comply with §63.512 instead of §63.114(e) of subpart G. When the term "range" is used in §63.117(f), §63.118(a)(2)(iv), (b)(2)(iv), (f)(1), and (f)(6) of subpart G, it shall be replaced with the term "level." This level is determined in accordance with §63.512.

(11) If a Group 1 batch process vent is combined with a continuous process vent prior to being routed to a control device, the combined vent stream shall meet the requirements in paragraph (a)(12)(i) and (a)(12)(ii) of this section.

(i) All requirements for a Group 1 continuous process vent stream in §§63.113 through 63.118 of subpart G, with the differences noted in (a)(1) through (a)(10) of this section.

(ii) As indicated in §63.511(a)(1), testing shall take place in maximum representative operating conditions. For combined streams containing continuous and batch process vents, this shall be during periods when batch emission episodes are venting to the control device resulting in the highest concentration of organic HAP in the combined vent stream.

(12) If a batch process vent is combined with a continuous process vent prior to being routed to a recovery device, the TRE index value shall be calculated at the exit of the recovery device at maximum representative operating conditions. For combined streams containing continuous and batch process vents, this shall be during periods when batch emission episodes are venting to the recovery device resulting in the highest concentration of organic HAP in the combined vent stream.

(b) Each owner or operator of an affected source producing PET using one of the continuous processes listed in §63.500(a)(1)(i) or (a)(1)(iii) shall comply with the requirements specified in paragraphs (b)(1) through (b)(4) of this section and not with any of the requirements specified in subpart DDD of part 60.

(1) Each owner or operator of an affected source specified in paragraph (b) of this section shall comply with paragraph (a) of this section except as specified in paragraphs (b)(2) through (b)(4) of this section.

(A) Calculation of total organic compound (TOC) emissions from material recovery sections at existing PET facilities using a DMT continuous process to determine whether paragraph (b)(2)(i) of this section is applicable shall be made using the procedures specified in §63.511(d).

(B) Compliance with paragraphs (b)(2)(i)(A), (b)(2)(ii), (b)(3)(i), (b)(3)(ii), and (c)(2)(i)(A) of this section shall be made using the procedures specified in §63.511(d).

(C) Compliance with paragraphs (b)(2)(i)(B) and (c)2)(i)(B) of this section shall be made using the procedures specified in §63.511(e).

(D) Compliance with paragraphs (b)(2)(ii), (b)(3)(iii), (c)(2)(i)(C), and (c)(2)(ii) of this section shall be made according to the requirements contained in paragraph (a) of this section.

(2) Each owner or operator of an affected source producing PET using a continuous DMT process, as listed in §63.500(a)(1)(iii), shall comply with paragraphs (b)(2)(i) through (b)(2)(iii) of this section.

(i) For existing sources with TOC emissions from continuous process vents in the material recovery section (i.e., methanol recovery) greater than 0.12 kg TOC/megagram (Mg) of product and for all new sources, limit the continuous TOC emissions from the material recovery section by complying with one of the following:

(A) Not allow the continuous TOC emissions to be greater than 0.018 kg TOC/Mg of product; or

(B) Not allow the outlet gas stream temperature from each final condenser in the material recovery section (i.e., methanol recovery) to exceed +3°C (+37°F).

(ii) Limit the continuous TOC emissions from the polymerization reaction section (including emissions from any equipment used to further recover the ethylene glycol, but excluding those emissions from the process contact cooling tower) to 0.02 kg TOC/Mg of product or less.

(iii) Limit emissions from batch and continuous process vents from other parts of the process (i.e., those not included in paragraphs (b)(2)(i) and (b)(2)(ii) of this section) and any emissions from batch process vents within those parts of the process covered by paragraphs (b)(2)(i) and (b)(2)(ii) of this section by complying with paragraph (a) of this section.

(3) Each owner or operator of an affected source producing PET using a continuous TPA process, as listed in §63.500(a)(1)(i), shall comply with paragraphs (b)(3)(i) through (b)(3)(iii) of this section.

(i) Not allow the continuous TOC emissions from the esterification vessels in the raw materials preparation section to be greater than 0.04 kg TOC/Mg of product.

(ii) Limit the continuous TOC emissions from the polymerization reaction section (including emissions from any equipment used to further recover the ethylene glycol, but excluding those emissions from the process contact cooling tower) to 0.02 kg TOC/Mg of product or less.

(iii) Limit emissions from batch and continuous process vents from other parts of the process (i.e., those not included in paragraphs (b)(3)(i) and (b)(3)(ii) of this section) and any emissions from batch process vents within those parts of the process covered by paragraphs (b)(3)(i) and (b)(3)(ii) of this section by complying with paragraph (a) of this section.

(4) When complying with the requirements in paragraphs (b)(2)(i) and (b)(2)(ii) and paragraphs (b)(3)(i) and (b)(3)(ii) of this section, determination of group status (i.e., Group 1/Group 2) is not required and paragraphs related to the determination of group status, including paragraphs concerned with the total resource effectiveness (TRE), that are included in §§63.113 through 63.118 of subpart G, as referred to in paragraph (a) of this section, do not apply.

(c) Each owner or operator of an affected source producing polystyrene using a continuous process, as listed in §63.500(a)(1)(v), shall comply with the requirements specified in paragraphs (c)(1) through (c)(3) of this section and not with any of the requirements specified in 40 CFR part 60, subpart DDD.

(1) Each owner or operator of an affected source specified in paragraph (c) of this section shall comply with paragraph (a) of this section except as specified in paragraph (c)(2) of this section.

(2) Each owner or operator of an affected source producing polystyrene using a continuous process, as listed in §63.500(a)(1)(v), shall comply with paragraphs (c)(2)(i) and (c)(2)(ii) of this section.

(i) Limit the continuous TOC emissions from the material recovery section by complying with one of the following:

(A) Not allow the continuous TOC emissions to be greater than 0.0036 kg TOC/Mg of product; or

(B) Not allow the outlet gas stream temperature from each final condenser in the material recovery section to exceed -25 ^{o}C (-13 ^{o}F); or

(C) Comply with one of the following:

(1) Reduce emissions of TOC (minus methane and ethane) by 98 weight percent, or to a concentration of 20 parts per million by volume (ppmv) on a dry basis, whichever is less stringent. The TOC is expressed as the sum of the actual compounds, not carbon equivalents. If an owner or operator

elects to comply with the 20 ppmv standard, the concentration shall include a correction to 3 percent oxygen only when supplemental combustion air is used to combust the vent stream; or

(2) Combust the emissions in a boiler or process heater with a design heat input capacity of 150 million Btu/hour or greater by introducing the vent stream into the flame zone of the boiler or process heater. (Note: A boiler or process heater of lesser design heat capacity may be used, but must demonstrate compliance with paragraph (c)(2)(i)(C)(1); or

(3) Combust the emissions in a flare that complies with the requirements of §63.11(b) of subpart A.

(ii) Limit organic HAP emissions from batch and continuous process vents from other parts of the process (i.e., those not included in paragraph (c)(1)(i) of this section) and any batch process vent from the material recovery section by complying with paragraph (a) of this section.

(3) When complying with the requirements in paragraph (b)(2)(i) of this section, determination of group status (i.e., Group 1/Group 2) is not required and paragraphs related to the determination of group status, including paragraphs concerned with the total resource effectiveness (TRE), that are included in §§63.113 through 63.118 of

subpart G, as referred to in paragraph (a) of this section, do not apply.

(d) Existing sources producing MBS, as listed in §63.500(a)(1)(xvii), shall comply with either paragraph (d)(1) or (d)(2) of this section.

(1) Comply with paragraph (a) of this section. When complying with this paragraph, the term "TRE of 4.0", or related terms indicating a TRE value of 4.0, referred to in §63.113 through §63.118 of subpart G shall be replaced with "TRE of 6.7." The TRE range of 3.7 to 6.7 corresponds to the TRE range of 1.0 to 4.0, as it applies to monitoring, recordkeeping and reporting.

(2) Not allow organic HAP emissions from all continuous process vents to be greater than 0.00590 kg of emissions per Mg of product.

(A) Compliance with paragraph (d)(2) of this section shall be determined using the procedures specified in §63.511(f).

(B) When complying with paragraph (d)(2) of this section, determination of group status (i.e., Group 1/Group 2) is not required and paragraphs related to the determination of group status, including paragraphs concerned with the total resource effectiveness (TRE), that are included in §§63.113 through 63.118 of subpart G, as referred to in paragraph (a) of this section, do not apply.

(e) New sources producing SAN resin using a batch process, as listed in §63.500(a)(1)(xiv), shall reduce the total emissions from all continuous and batch process vents by 84 percent.

(1) Compliance with paragraph (e) of this section shall be determined using the procedures specified in §63.511(g).

(2) When complying with paragraph (e) of this section, determination of the group status (i.e., Group 1/Group 2) is not required and paragraphs related to the determination of group status, including paragraphs concerned with the total resource effectiveness (TRE), that are included in §§63.113 through 63.118 of subpart G, as referred to in paragraph (a) of this section, do not apply.

§63.506 Batch process vent provisions.

(a)(1) Except for new SAN sources using a batch process, owners and operators of new and existing affected sources with batch process vents shall comply with the requirements in §§63.506-1 through 63.506-6. The batch process vent group status shall be determined in accordance with §63.506-2. Batch process vents classified as Group 1 shall comply with the reference control technology requirements for Group 1 batch process vents in §63.506-1, the monitoring requirements in §63.506-3, the performance test methods and procedures to determine compliance requirements in §63.506-4, the recordkeeping requirements in

§63.506-5, and the reporting requirements in §63.506-6. All Group 2 batch process vents shall comply with the applicable reference control technology requirements in §63.506-1, recordkeeping requirements in §63.506-5, and reporting requirements in §63.506-6.

(2) Owners and operators of new SAN sources using a batch process shall comply with the requirements of §63.506-1 through §63.506, except that the determination of group status (i.e., Group 1/Group 2) under §63.506-2 is not required. Where only batch process vents occur, each owner or operator shall comply with the provisions specified in this section. Where only continuous process vents occur, each owner or operator shall comply with the provisions specified in §63.505. Where both batch and continuous process vents occur, provisions under this section and §63.505 apply, the applicable provisions depend on whether batch and continuous process vents are combined.

§63.506-1 Batch process vent provisions - reference control technology.

(a) The owner or operator of a Group 1 batch process vent, as determined using the procedures in §63.506-2, shall comply with the requirements of either paragraph (a)(1) or (a)(2) of this section, except as provided for in paragraph (a)(3) of this section.

(1) Reduce emissions of organic HAP using a flare.

(i) The flare shall comply with the requirements of §63.11(b) of subpart A.

(ii) Halogenated batch process vents and halogenated aggregate batch vent streams, as defined in §63.502, shall not be vented to a flare.

(2) Reduce emissions of total organic HAP by 90 weight-percent using a control or recovery device. Compliance can be determined by measuring either organic HAP or TOC using the procedures in §63.506-4.

(3) New sources producing SAN resin using a batch process, as listed in §63.500 (a)(1)(xiv), shall reduce the total emissions from all batch and continuous process vents by 84 percent.

(A) Compliance with paragraph (a)(3) of this section shall be determined using the procedures specified in §63.511(g).

(B) When complying with paragraph (a)(3) of this section, determination of the group status (i.e., Group 1/Group 2) under §63.506-2 is not required.

(b) If a boiler or process heater is used to comply with the percent reduction requirement specified in paragraph (a)(2) or (a)(3) of this section, the vent stream shall be introduced into the flame zone of such a device.

(c) Halogenated Group 1 batch process vents and halogenated aggregate batch vent streams that are combusted shall be controlled according to either paragraph (c)(1) or (c)(2) of this section.

(1) If a combustion device is used to comply with paragraph (a)(2) of this section for a halogenated batch process vent or halogenated aggregate batch vent stream, the vent stream shall be ducted from the combustion device to an additional control device that reduces overall emissions of hydrogen halides and halogens by 99 percent, before it is discharged to the atmosphere.

(2) A control or recovery device may be used to reduce the vent (or aggregate vent stream) halogen atom mass emission rate to less than 3,750 kg/year prior to any combustion control device, and thus make the vent (or aggregate vent stream) nonhalogenated. The nonhalogenated vent (or aggregate vent stream) must then comply with the requirements of either paragraph (a)(1) or (a)(2) of this section.

(d) The owner or operator of an aggregate batch vent stream that contains one or more Group 1 batch process vents shall comply with the provisions of paragraph (a) of this section.

(e) A batch process vent combined with a continuous process vent stream is not subject to the provisions of §§63.506-2 through 63.506-6, providing the requirements of paragraphs (e)(1), (e)(2), and either (e)(3) or (e)(4) of this section are met.

(1) The batch process vent is combined with a continuous vent prior to a control or recovery device, and

(2) There are no emissions to the atmosphere from the unit operation to the point the batch vent stream is combined with the continuous vent stream, and

(3) If the batch vent stream is combined with a continuous process vent stream prior to being routed to a control device, the combined stream shall comply with the requirements in §63.505(a)(11), or (4) If the batch vent stream is combined with a continuous process vent stream prior to being routed to a recovery device, the combined stream shall comply with the requirements in §63.505(a)(12).

(f) The owner or operator of a Group 2 batch process vent with annual organic HAP emissions greater than or equal to the levels specified in §63.506-2(d) shall comply with the provisions of (f)(1) and (f)(2) of this section.

(1) Establish a batch cycle limitation, which ensures that the Group 2 batch process vent does not become a Group 1 batch process vent, and

(2) Comply with the recordkeeping requirements in §63.506-5(e), and the reporting requirements in §63.506-6(a)(2) and (b).

(g) The owner or operator of a Group 2 batch process vent with annual organic HAP emissions greater than or equal to 225 kg/year, but less than the levels specified in

§63.506-2(d) shall comply with paragraphs (g)(1) and (g)(2) of this section.

(1) The owner or operator shall establish a batch cycle limitation that ensures emissions do not exceed the levels in §63.506-2(d), and

(2) Comply with the recordkeeping requirements in §63.506-5(d), and the reporting requirements in §63.506-6(a)(3), (b), and (c).

(h) The owner or operator of a batch process vent with annual emissions less than 225 kg/year shall comply with the reporting requirements in §63.506-6(b) and (c).

§63.506-2 Batch process vent provisions - methods and procedures for batch process vent group determination.

(a) Except as provided in paragraph (a)(2) of this section and in §63.506-1(a)(3)(B), the owner or operator of batch process vents at affected sources shall determine the group status of each batch process vent in accordance with the provisions of this section.

(1) The annual uncontrolled organic HAP emissions, vent volatility class, and average flow rate shall be determined at the exit from the unit operation before any emission control or recovery device. For the purposes of these determinations, condensers operating as reflux condensers, condensers recovering monomer or solvent from a batch stripping operation, and condensers recovering monomer or solvent from a batch distillation operation shall be

considered part of the unit operation, and not recovery devices.

(2) The owner or operator of a batch process vent complying with either the flare provisions in paragraph (a)(1) of this section or the control or the recovery device requirements in paragraph (a)(2) of this section is not required to perform the batch process vent group determination described in §63.506-2, but shall comply with all requirements applicable to Group 1 batch process vents.

(b) The owner or operator shall calculate annual uncontrolled organic HAP emissions for each batch process vent using the methods described in paragraphs (b)(1) through (b)(8) of this section. Paragraphs (b)(1) through (b)(5) of this section specify the methods to be used to calculate the emissions from individual batch emission episodes. If the owner or operator can demonstrate that the methods in paragraphs (b)(1) through (b)(5) of this section are not appropriate to estimate emissions from a batch emission episode, emissions may be estimated using engineering assessment, as described in paragraph (b)(6) of this section. Organic HAP emissions from a batch cycle shall be calculated in accordance with paragraph (b)(7) of this section, and total annual organic HAP emissions from the batch process vent shall be calculated in accordance with paragraph (b)(8) of this section.

(1) Organic HAP emissions from empty reactor and vessel purging shall be calculated using Equation 1. This equation does not take into account evaporation of any residual liquid in the vessel.

$$E_{episode} = \frac{(V_{ves})(P_{HAP})(MW_{HAP})}{RT}(1 - 0.37^{m}) \quad \text{[Eq. 1]}$$

where:

$E_{episode}$	=	organic HAP emissions, kg/episode.
V_{ves}	=	Volume of vessel, m^3.
P_{HAP}	=	Total organic HAP partial pressure, kPa.
MW_{HAP}	=	Weighted average molecular weight of organic HAP in vapor, determined in accordance with paragraph (b)(4)(iii) of this section.
R	=	Ideal gas constant, 8.314 cubic meters ·kilopascals per kilomole·degrees Kelvin (m^3·kPa/kmol°K).
T	=	Temperature of vessel vapor space, °K.
m	=	Number of volumes of purge gas used.

(2) Organic HAP emissions from filled reactor and vessel purging shall be calculated using Equation 2.

$$E_{episode} = \frac{(y_{HAP})(V_{dr})(P)^2(MW_{HAP})}{RT\,(P - \sum_{i=1}^{n} P_i x_i)} \qquad \text{[Eq. 2]}$$

where:

$E_{episode}$ = Organic HAP emissions, kg/episode.

y_{HAP} = Saturated mole fraction of all organic HAP in vapor phase.

V_{dr} = Volumetric gas displacement rate, cubic meters per minute (m^3/min).

P = Pressure in vessel vapor space, kPa.

MW_{HAP} = Weighted average molecular weight of organic HAP in vapor, determined in accordance with paragraph (b)(4)(iii) of this section.

R = Ideal gas constant, 8.314 $m^3 \cdot$kPa/kmol$\cdot$°K.

T = Temperature of vessel vapor space, °K.

P_i = Vapor pressure of individual organic HAP, kPa.

x_i = Mole fraction of organic HAP in the liquid.

n = Number of organic HAP in stream.

(3) Emissions from vapor displacement due to transfer of material into or out of the reactor shall be calculated using Equation 3.

$$E_{episode} = \frac{(y_i)(V_{dues})(P_T)(MW_{HAP})}{(R)(T)} \qquad \text{[Eq. 3]}$$

where:

$E_{episode}$ = organic HAP emissions, kg/episode.

y_i = Saturated mole fraction of organic HAP in the vapor phase.

V_{dues} = Volume of gas displaced from the vessel, m^3.

P_T = Pressure of the vessel vapor space, kPa.

MW_{HAP} = Weighted average molecular weight of organic HAP in vapor, determined in accordance with paragraph (b)(4)(iii) of this section.

R = Ideal gas constant, 8.314 $m^3 \cdot kPa/kmol \cdot {}^\circ K$.

T = Temperature of vessel vapor space, °K.

n = Number of organic HAP in stream.

(4) Emissions caused by heating of a vessel shall be calculated using Equation 4. The assumptions made for this calculation are atmospheric pressure of 760 millimeters of mercury (mm Hg) and the displaced gas is always saturated with volatile organic compounds (VOC) vapor in equilibrium with the liquid mixture.

$$E_{episode} = \left[\frac{\dfrac{\sum_{i=1}^{n} (P_i)_{T1}}{101.325 - \sum_{i=1}^{n} (P_i)_{T1}} + \dfrac{\sum_{i=1}^{n} (P_i)_{T2}}{101.325 - \sum_{i=1}^{n} (P_i)_{T2}}}{2} \right] (\Delta\eta)\ (MW_{HAP}) \qquad \text{[Eq. 4]}$$

where:

$E_{episode}$ = organic HAP emissions, kg/episode.

$(P_i)_{Tn}$ = Partial pressure (kPa) of each organic HAP in the vessel headspace at initial (n=1) and final (n=2) temperature.

n = Number of organic HAP in stream.

$\Delta\eta$ = Number of pound moles (lb-moles) of gas displaced, determined in accordance with paragraph (b)(4)(i) of this section.

MW_{HAP} = Weighted average molecular weight of organic HAP in vapor, determined in accordance with paragraph (b)(4)(iii) of this section.

(i) The moles of gas displaced, $\Delta\eta$, is calculated using Equation 5.

$$\Delta\eta = \frac{V_{fs}}{R}\left[\left(\frac{Pa_1}{T_1}\right)-\left(\frac{Pa_2}{T_2}\right)\right] \qquad \text{[Eq. 5]}$$

where:

$\Delta\eta$ = Number of kg-moles of gas displaced.

V_{fs} = Volume of free space in the vessel, m^3.

R = Ideal gas constant, 8.314 $m^3 \cdot kPa/kmol \cdot {}^\circ K$.

Pa_1 = Initial noncondensible gas pressure in the vessel, kPa.

Pa_2 = Final noncondensible gas pressure, kPa.

T_1 = Initial temperature of vessel °K; and

T_2 = Final temperature of vessel, °K.

(ii) The initial pressure of the noncondensible gas in the vessel shall be calculated using Equation 6.

$$Pa = 101.325 - \sum_{i=1}^{n} (P_i)_T \qquad \text{[Eq. 6]}$$

where:

Pa = Initial or final partial pressure of noncondensible gas in the vessel headspace, kPa.

$(P_i)_T$ = Partial pressure of each organic HAP in the vessel headspace, kPa, at the initial or final temperature (T_1 or T_2).

n = Number of organic HAP in stream.

(iii) The weighted average molecular weight of organic HAP in the displaced gas, MW_{HAP}, shall be calculated using Equation 7.

$$MW_{HAP} = \frac{\sum_{i=1}^{n} (mass\ of\ HAP)_i (HAP\ molecular\ weight)_i}{\sum_{i=1}^{n} (mass\ of\ HAP)_i} \qquad \text{[Eq. 7]}$$

(5) The owner or operator may estimate annual emissions for a batch emission episode by direct measurement. If direct measurement is used, the owner or operator shall perform a test for the duration of a representative batch emission episode, using the EPA test methods in 40 CFR 60, appendix A, as listed in paragraphs (b)(5)(i) through (b)(5)(iii) of this section. Gas stream volumetric flow rate shall be measured every 15 minutes during the batch emission episode. Organic HAP concentration shall be determined by either taking an integrated sample over the duration of the batch emission episode, or grab samples taken simultaneously with the flow rate measurements. The procedures in either paragraph (b)(5)(iv) or (b)(5)(v) of this section shall be used to calculate the emissions per batch emission episode.

(i) Method 1 or 1A, as appropriate, shall be used for selection of the sampling sites if the flow measuring device is a pitot tube. No traverse is necessary when using Method 2A or 2D.

(ii) Method 2, 2A, 2C, or 2D, as appropriate, shall be used for determination of gas stream volumetric flow rate.

(iii) Method 25A or Method 18, as appropriate, shall be used to determine the concentration of organic HAP in gas streams.

(iv) If an integrated sample is taken over the entire batch emission episode to determine average total organic HAP concentration, emissions shall be calculated according to paragraphs (b)(5)(iv)(A) and (b)(5)(iv)(B) of this section.

(A) The average flow rate shall be calculated using the procedures in paragraph (e)(3) of this section.

(B) The emissions per batch emission episode shall be calculated using Equation 8.

$$E_{episode} = K\left[\sum_{j=1}^{n}(C_j)(M_j)\right]AFR \qquad \text{[Eq. 8]}$$

where,

$E_{episode}$ = organic HAP emissions, kg/episode.

K = Constant, 2.494 x 10^{-6} $(ppmv)^{-1}$ (gm-mole/scm) (kg/gm) (min/hr), where standard temperature is 20 ^{o}C.

C_j = Average concentration of sample organic HAP component j of the gas stream for the batch emission episode, dry basis, ppmv.

M_j = Molecular weight of sample component j of the gas stream, gm/gm-mole.

AFR = Average flow rate of gas stream for the batch emission episode, dry basis, scmm.

(v) If grab samples are taken to determine total organic HAP concentration, emissions shall be calculated according to paragraphs (b)(5)(v)(A) and (b)(5)(v)(B) of this section.

(A) For each measurement point, the emission rate shall be calculated using Equation 9.

$$E_{point} = K\left[\sum_{j=1}^{n} C_j M_j\right] FR \qquad [Eq.\ 9]$$

where:

E_{point} = Emission rate for individual measurement point, kg/hr.

K = Constant, 2.494×10^{-6} $(ppmv)^{-1}$ (gm-mole/scm) (kg/gm) (min/hr), where standard temperature is 20 ^{o}C.

C_j = Concentration of sample component j of the gas stream, dry basis, ppmv.

M_j = Molecular weight of sample component j of the gas stream, gm/gm-mole.

FR_i = Flow rate of gas stream, dry basis, scmm.

(B) The emissions per batch emission episode shall be calculated using Equation 10.

$$E_{episode} = (DUR)\left[\sum_{i=1}^{n} \frac{E_i}{n}\right] \qquad \text{[Eq. 10]}$$

where,

$E_{episode}$ = organic HAP emissions, kg/episode.

DUR = Duration of the batch emission episode, hr/episode.

E_i = Emissions for measurement point i, kg/hr

n = Number of measurements.

(6) If the owner or operator can demonstrate that the methods in paragraphs (b)(1) through (b)(5) of this section are not appropriate to estimate emissions for a batch emissions episode, the owner or operator may use engineering

assessment to estimate emissions. Engineering assessment includes, but is not limited to, the following:

(i) Previous test results, provided the tests are representative of current operating practices at the process unit.

(ii) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(iii) Flow rate, TOC emission rate, or organic HAP emission rate specified or implied within a permit limit applicable to the batch process vent.

(iv) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(A) Use of material balances,

(B) Estimation of flow rate based on physical equipment design such as pump or blower capacities, and

(C) Estimation of TOC or organic HAP concentrations based on saturation conditions.

(v) All data, assumptions, and procedures used in the engineering assessment shall be documented.

(7) For each batch process vent, the organic HAP emissions associated with a single batch cycle shall be calculated using Equation 11.

where,

$$E_{cycle} = \sum_{i-1}^{n} E_{episode_i} \qquad \text{[Eq. 11]}$$

E_{cycle}	=	Batch cycle organic HAP emissions from an individual batch process vent, kg/batch cycle.
$E_{episode_i}$	=	Organic HAP emissions from a batch emission episode, kg/episode.
n	=	Number of batch emission episodes occurring during the batch cycle that vent from the batch process vent.

(8) The total annual organic HAP emissions from a batch process vent shall be calculated using Equation 12.

$$AE = \sum_{i=1}^{n} (N_i)(E_{cycle_i}) \qquad \text{[Eq. 12]}$$

where,

AE	=	Annual organic HAP batch emissions from a process vent, kg/yr.
N	=	Number of type i batch cycles performed annually.
E_{cycle_i}	=	Organic HAP emissions from the batch process vent associated

with single batch cycle i, as determined in paragraph (b)(7) of this section.

n = Number of different types of batch cycles that cause the emission of organic HAP from the batch process vent.

(c) The owner or operator shall calculate the volatility class of each batch process vent, as defined in §63.502 and Table 3 of this subpart using Equation 13.

$$WAVP = \frac{\sum_{i=1}^{n}\left[(P_i)\left(\frac{M_i}{MW_i}\right)\right]}{\sum_{i=1}^{n}\left(\frac{M_i}{MW_i}\right)} \qquad \text{[Eq. 13]}$$

where:

WAVP = Weighted average vapor pressure, kPa.

P_i = Vapor pressure of pure organic HAP component i, kPa.

M_i = Mass of organic HAP component i emitted annually, kg/yr.

MW_i = Molecular weight of organic HAP component i.

(d) A batch process vent with annual emissions less than the levels specified in paragraphs (d)(1) through (d)(3) of this section, as applicable, are not required to comply with the provisions in paragraphs (e) through (g) of this section.

(1) low volatility streams - 11,800 kg/year;

(2) moderate volatility streams - 7,300 kg/year;

(3) high volatility streams - 10,500 kg/year; and

(4) Owners and operators of a Group 2 batch process vent utilizing the exemption specified in paragraph (d)(1), (d)(2), or (d)(3) of this section, shall comply with the requirements in §63.506-1(g).

(e) The owner or operator shall determine the annual average flow rate for each batch process vent in accordance with the procedures provided in paragraph (e)(1) through (e)(3) of this section.

(1) The vent stream volumetric flow rate (Q_S), in standard cubic meters per minute (scmm) at 20°C, shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(2) The vent stream volumetric flow rate shall be measured every 15 minutes during a representative batch emission episode.

(3) The average flow rate for a batch emission episode shall be calculated using Equation 14.

$$AFR_{episode} = \frac{\sum_{i=1}^{n} FR_i}{n} \qquad \text{[Eq. 14]}$$

where,

$AFR_{episode}$ = Average flow rate for the batch emission episode, scmm.

FR_i = Flow rate for individual measurement, scmm.

n = Number of flow rate measurements taken during the batch emission episode.

(4) The annual average flow rate for a batch process vent shall be calculated using Equation 15.

$$AFR = \frac{\sum_{i=1}^{n}(DUR_i)(AFR_{episode_i})}{\sum_{i=1}^{n}(DUR_i)} \qquad \text{[Eq. 15]}$$

where:

AFR = Annual average flow rate for the batch process vent, scmm.

DUR_i = Duration of type i batch emission episodes annually, hrs/yr.

$AFR_{episode_i}$ = Average flow rate for the type i batch emission episode, scmm.

n = Number of types of batch emission episodes venting from the batch process vent.

(f) For each batch process vent, the owner or operator shall calculate the cutoff flow rate using the appropriate equation in paragraphs (f)(1), (f)(2), or (f)(3) of this section.

(1) For low volatility streams, Equation 16 shall be used to calculate the cutoff flow rate:

$$CFR_{LOW} = (0.00437)(AE) - 51.6 \qquad \text{[Eq. 16]}$$

(2) For moderate volatility streams, Equation 17 shall be used to calculate the cutoff flow rate:

$$CFR_{MOD} = (0.00187)(AE) - 14.0 \qquad \text{[Eq. 17]}$$

(3) For high volatility streams, Equation 18 shall be used to calculate the cutoff flow rate:

$$CFR_{HIGH} = (0.00081)(AE) - 8.5 \qquad \text{[Eq. 18]}$$

where:

CFR = Cutoff flow rate, scmm.

AE = Annual organic HAP emissions, kg/yr.

(g) The owner or operator shall compare the cutoff flow rate, calculated in accordance with paragraph (f) of this section, with the annual average flow rate, determined in accordance with paragraph (e) of this section. Based on the results of this comparison, the owner or operator shall comply with either paragraph (g)(1) or (g)(2) of this section.

(1) If the cutoff flow rate is greater than or equal to the annual average flow rate of the stream, the batch process vent is classified as a Group 1 batch process vent, and shall comply with the requirements of §63.506-1 for Group 1 batch process vents.

(2) If the cutoff flow rate is less than the annual average flow rate of the stream, the batch process vent is classified as a Group 2 batch process vent. Owners and operators of a Group 2 batch process vent shall comply with the requirements of §63.506-1(f).

(h) To determine whether a batch process vent or an aggregate batch vent stream is halogenated, the annual mass emission rate of halogen atoms contained in organic compounds shall be calculated using the procedures specified in paragraphs (h)(1) through (h)(3) of this section.

(1) The batch process vent stream concentration of each organic compound containing halogen atoms (ppmv, by compound) for each batch emission episode shall be determined based on the following procedures:

(i) Process knowledge that no halogen or hydrogen halides are present in the process, or

(ii) Applicable engineering assessment as discussed in paragraph (b)(6) of this section, or

(iii) Concentration of organic compounds containing halogens as measured by Method 18 of 40 CFR part 60, appendix A, or

(iv) Any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of this part.

(2) The annual mass emissions of halogen atoms shall be calculated using Equation 19.

$$E_{halogen} = K \left[\sum_{j=1}^{n} \sum_{i=1}^{m} (C_{avg_j}) \ldots \right] \quad (19)$$

where:

$E_{halogen}$	=	Mass of halogen atoms, dry basis, kg/yr.
K	=	Constant, 0.022 $(ppmv)^{-1}$ (kg-mole per scm) (minute/yr), where standard temperature is 20 ^{o}C.
AFR	=	Annual average flow rate of the batch process vent, scmm, determined according to paragraph (e) of this section.
$M_{j,i}$	=	Molecular weight of halogen atom i in compound j, kg/kg-mole.
$L_{j,i}$	=	Number of atoms of halogen i in compound j.
j	=	halogenated compound j in the batch process vent stream(s).

i	=	Halogen atom i in compound j of the batch process vent stream(s).
n	=	Number of halogenated compounds j in the batch process vent stream(s).
m	=	Number of different halogens i in each compound j of the batch process vent stream(s).
C_{avg_j}	=	Average annual concentration of halogenated compound j in the batch process vent stream(s), dry basis, ppmv, as determined by using Equation 20.

$$C_{avg_j} = \frac{\sum_{i=1}^{n}(DUR_i)(C_i)}{\sum_{i=1}^{n}(DUR_i)} \quad \text{[Eq. 20]}$$

where,

DUR_i	=	Duration of type i batch emission episodes annually, hrs/yr.
C_i	=	Average concentration of halogenated compound j in type i batch emission episode, ppmv.
n	=	Number of types of batch emission episodes venting from the batch process vent annually.

(3) The annual mass emissions of halogen atoms for an aggregate batch vent stream shall be the sum of the annual mass emissions of halogen atoms for all batch process vents included in the aggregate stream.

(i) Whenever process changes are made that affect one or more Group 2 batch process vent, the owner or operator shall redetermine the volatility class, annual emissions, average flow rate, and cutoff flow rate for each affected process vent, as necessary, to determine whether the batch process vent is Group 1 or Group 2. Examples of process changes include, but are not limited to, changes in production capacity, production rate, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. An increase in the number of annual batch cycles constitutes a process change. For purposes of this paragraph, process changes do not include: process upsets; unintentional, temporary process changes; and changes that are within the range on which the original group determination was based.

(1) The volatility class, average flow rate, cutoff flow rate, and batch process vent group determination shall be redetermined using the procedures specified in paragraphs (b) through (g) of this section, as applicable, or using best engineering assessment of the effects of the change. If an engineering assessment is performed, it shall follow the guidance provided in paragraph (b)(6) of this section.

(2) Where the redetermined emissions are greater than or equal to the levels specified in paragraph (d) of this section, or the redetermined cutoff flow rate is greater than or equal to the redetermined average flow rate, the owner or operator shall submit a report as specified in §63.506-6(b) and (c), as applicable, and shall comply with the appropriate provisions in §63.506-1 in accordance with the compliance schedule required to be submitted in §63.513(b)(3)(iv).

(j) The owner or operator of a new SAN source complying with §63.506-1(a)(3) shall redetermine the percent reduction of the batch and continuous process vent emissions whenever process changes are made. Examples of process changes include, but are not limited to, changes in production capacity, production rate, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. An increase in the number of annual batch cycles constitutes a process change. For purposes of this paragraph, process changes do not include: process upsets; unintentional, temporary process changes; and changes that are within the range on which the original group determination was based.

(1) The percent reduction shall be redetermined using the procedures specified in §63.511(g).

(2) Where the redetermined percent reduction is less than 84 percent, the owner or operator shall submit a report as specified in §63.506-6(b) and shall comply with the appropriate provisions in §63.506-1(a)(3) in accordance with the compliance schedule described in §63.513(b)(3)(iv).

§63.506-3 Batch process vent provisions - monitoring requirements.

(a) Each owner or operator of a batch process vent that uses a combustion device to comply with the requirements in §63.506-1(a)(1) through (a)(3), shall install the monitoring equipment specified in paragraphs (a)(1), (a)(2), (a)(3), and (a)(4), as applicable, of this section. This monitoring equipment shall be in operation at all times when batch emission episodes are vented to the combustion device. The parameters to be monitored are specified in Table 5.

(1) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.

(i) Where an incinerator other than a catalytic incinerator is used, the temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

(ii) Where a catalytic incinerator is used, the temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(2) Where a flare is used, a device (including but not limited to a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting the presence of a pilot flame is required.

(3) Where a boiler or process heater of less than 44 megawatts design heat input capacity is used, a temperature monitoring device in the firebox equipped with a continuous recorder is required. Any boiler or process heater in which all vent streams are introduced with primary fuel or are used as the primary fuel is exempt from this requirement.

(4) Where a scrubber is used with an incinerator, boiler, or process heater in the case of halogenated vents, the following monitoring equipment is required for the scrubber.

(i) A pH monitoring device equipped with a continuous recorder to monitor the pH of the scrubber effluent.

(ii) Flow meters equipped with continuous recorders shall be located at the scrubber influent for liquid flow and the scrubber inlet for gas stream flow.

(b) Each owner or operator of a batch process vent that uses one or more recovery devices to comply with §63.506-1(a)(2) or (a)(3), shall install either an organic monitoring device equipped with a continuous recorder, or the monitoring equipment specified in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as applicable. This monitoring equipment shall be in operation at all times when batch emission episodes are vented to the recovery device. The parameters to be monitored are specified in Table 5.

(1) For an absorber, a scrubbing liquid temperature monitoring device and a specific gravity monitoring device are required, each equipped with a continuous recorder;

(2) For a condenser, a condenser exit (product side) temperature monitoring device equipped with a continuous recorder is required;

(3) For a carbon adsorber, an integrating regeneration stream flow monitoring device having an accuracy of $\pm$10 percent, capable of recording the total regeneration stream mass flow for each regeneration cycle; and a carbon bed temperature monitoring device, capable of recording the

carbon bed temperature after each regeneration and within 15 minutes of completing any cooling cycle are required.

(c) An owner or operator of a batch process vent may request approval to monitor parameters other than those required by paragraphs (a) and (b) of this section. The request shall be submitted according to the procedures specified in §63.513(d) and (c), as applicable. Approval shall be requested if the owner or operator:

(1) Uses a control or recovery device other than those included in paragraphs (a) and (b) of this section; or

(2) Uses one of the control or recovery devices included in paragraphs (a) and (b) of this section, but seeks to monitor a parameter other than those specified in paragraphs (a) and (b) of this section.

(d) The owner or operator of a Group 1 batch process vent or, at a new SAN source, any batch process vent using a vent system that contains bypass lines that could divert a vent stream away from the control or recovery device used to comply with §63.506-1(a)(1), (a)(2), or (a)(3) shall comply with either paragraph (d)(1) or (d)(2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether vent stream flow is

present at least once every 15 minutes during each controlled batch emission episode. Records shall be generated as specified in §63.506-5(f)(3). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

(2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

(e)(1) The owner or operator shall establish for the batch cycle a single level, defined as either a maximum or minimum operating parameter as denoted in Table 4 of this subpart, that indicates proper operation of the control or recovery device for each parameter monitored under either paragraph (a) or (b) of this section. The established level, along with supporting documentation, shall be submitted in the Notification of Compliance Status or the operating permit application as required in §63.513(b)(5) and (c). The owner or operator shall operate control and recovery devices above the minimum level or below the maximum established level, as appropriate, to ensure continued compliance with the standard. The level shall be established in accordance with the procedures specified in §63.512.

§63.506-4 Batch process vent provisions - performance test methods and procedures to determine compliance.

(a) When a flare is used to comply with §63.506-1(a)(1) of this subpart, the owner or operator shall comply with the flare provisions in §63.11(b) of subpart A.

(b) An owner or operator is not required to conduct a performance test when a control device specified in paragraphs (b)(1) through (b)(4) of this section is used.

(1) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(2) A boiler or process heater into which the process vent stream is introduced with the primary fuel or is used as the primary fuel.

(3) A control device for which a performance test was conducted for determining compliance with an NSPS and the test was conducted using the same procedures specified in this section and no process changes have been made since the test.

(4) A boiler or process heater burning hazardous waste for which the owner or operator:

(i) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or

(ii) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(c) Except as provided in paragraph (b) of this section, an owner or operator using a control or recovery device to comply with the percent reduction efficiency requirement in §63.506-1(a)(2) shall conduct a performance test and determine the percent reduction for the batch cycle using the procedures specified in paragraphs (c)(1) through (c)(6) of this section. The percent reduction may be measured as either total organic HAP or as TOC minus methane and ethane.

(1) Sampling sites shall be located at the inlet of the control or recovery device as specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section, and at the outlet of the final control or recovery device prior to release to the atmosphere.

(i) The control or recovery device inlet sampling site shall be located at the exit from the unit operation before any emission control or recovery device.

(ii) If a process vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts, selection of the location of the inlet sampling sites shall ensure the measurement of total organic HAP or TOC (minus methane and ethane) concentrations in all process vents and primary and secondary fuels introduced into the boiler or process heater.

(2) A test shall be performed for each batch emission episode in a batch cycle. The duration of the test shall be at least 3 hours unless the period of the episode is less than 3 hours, in which case the test shall be conducted for the entire batch emission episode. The EPA Test Methods in 40 CFR part 60, appendix A, as listed in paragraphs (c)(2)(i) through (c)(2)(iii) of this section, shall be used. Gas stream volumetric flow rates shall be measured every 15 minutes. Organic HAP or TOC concentration shall be determined by either taking an integrated sample over the duration of each batch emission episode, or grab samples taken simultaneously with the flow rate measurements.

(i) Method 1 or 1A, as appropriate, shall be used for selection of the sampling sites if the flow measuring device is a pitot tube. No traverse is necessary when using Method 2A or 2D.

(ii) Method 2, 2A, 2C, or 2D, as appropriate, shall be used for determination of gas stream volumetric flow rate.

(iii) Method 25A or Method 18, as appropriate, shall be used to determine the concentration of organic HAP in gas streams.

(3) If an integrated sample is taken over the entire batch emission episode to determine average total organic

HAP concentration, emissions shall be calculated according to paragraphs (c)(3)(i) and (c)(3)(ii) of this section.

(i) The average flow rate for the batch emission episode shall be calculated using the procedures in §63.506-2(e)(3).

(ii) The emissions per batch emission episode shall be calculated using Equations 21 and 22.

$$E_{episode_{inlet}} = (K)\,(C_{j_{inlet}})\,(M_j)\,(AFR_{inlet}) \qquad \text{[Eq. 21]}$$

$$E_{episode_{outlet}} = (K)(C_{j_{outlet}})(M_j)(AFR_{outlet}) \qquad \text{[Eq. 22]}$$

where,

$E_{episode}$	=	Inlet or outlet emissions, kg/episode.
K	=	Constant, 2.494×10^{-6} $(ppmv)^{-1}$ (gm-mole/scm) (kg/gm) (min/hr), where standard temperature is 20 ^{o}C.
C_j	=	Average inlet or outlet concentration of sample component j of the gas stream for the batch emission episode, dry basis, ppmv.

M_j = Molecular weight of sample component j of the gas stream, gm/gm-mole.

AFR_i = Average inlet or outlet flow rate of gas stream for the batch emission episode, dry basis, scmm.

(4) If grab samples are taken to determine total organic HAP concentration, emissions shall be calculated according to paragraphs (c)(4)(i) and (ii) of this section.

(i) For each measurement point, the emission rates shall be calculated using Equations 23 and 24.

$$E_{point_{inlet}} = K \left[\sum_{j=1}^{n} C_j M_j\right] FR_{inlet} \quad \text{[Eq. 23]}$$

$$E_{point_{outlet}} = K \left[\sum_{j=1}^{n} C_j M_j\right] FR_{outlet} \quad \text{[Eq. 24]}$$

where:

E_{point} = Inlet or outlet emission rate for the measurement point, kg/hr.

K = Constant, 2.494 x 10^{-6} $(ppmv)^{-1}$ (gm-mole/scm) (kg/gm) (min/hr), where standard temperature is 20 ^{o}C.

C_j	=	Inlet or outlet concentration of sample component j of the gas stream, dry basis, ppmv.
M_j	=	Molecular weight of sample component j Pacific Environmental Services, Inc. (PES) of the gas stream for measurement point i, gm/gm-mole.
FR	=	Inlet or outlet flow rate of gas stream for the measurement point, dry basis, scmm.

(A) Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by Method 18 of 40 CFR part 60, appendix A are summed using the equations in paragraph (c)(4)(i) of this section.

(B) Where the mass rate of total organic HAP is being calculated, only the organic HAP species shall be summed using the equations in paragraph (c)(4)(i) of this section.

(ii) The emissions per batch emission episode shall be calculated using Equations 25 and 26.

$$E_{episode_{inlet}} = (DUR)\left[\sum_{i=1}^{n} \frac{E_{point_{inlet}}i}{n}\right] \qquad \text{[Eq. 25]}$$

$$E_{episode_{outlet}} = (DUR)\left[\sum_{i=1}^{n} \frac{E_{point_{outlet}}i}{n}\right] \qquad \text{[Eq. 26]}$$

where,

$E_{episode}$ = Inlet or outlet emissions, kg/episode.

DUR = Duration of the batch emission episode, hr/episode.

E_{point_i} = Inlet or outlet emissions for an measurement point i, kg/hr.

n = Number of measurements.

(5) The percent reduction in TOC (minus methane and ethane) or total organic HAP for the batch cycle shall be calculated using Equation 27.

$$R = \frac{\sum_{i=1}^{n} E_{inlet_i} - \sum_{i=1}^{n} E_{outlet_i}}{\sum_{i=1}^{n} E_{inlet_i}} (100) \qquad \text{[Eq. 27]}$$

where:

R = Control efficiency of control or recovery device, percent.

E_{inlet} = Mass rate of TOC (minus methane and ethane) or total organic HAP for batch emission episode i at the inlet to the control or recovery device as calculated under paragraph (c)(3)(ii) of this section, kg TOC/hr or kg organic HAP/hr.

E_{outlet} = Mass rate of TOC (minus methane and ethane) or total organic HAP for batch emission episode i at the outlet of the control or recovery device, as calculated under paragraph (c)(3)(ii) of this section, kg TOC/hr or kg organic HAP/hr.

n = Number of batch emission episodes in the batch cycle that vent from the batch process vent.

(6) If the process vent stream entering a boiler or process heater with a design capacity less than 44 megawatts is introduced with the combustion air or as a secondary fuel, the weight-percent reduction of total organic HAP or TOC (minus methane and ethane) across the device shall be determined by comparing the TOC (minus methane and ethane) or total organic HAP in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) or total organic HAP exiting the combustion device, respectively.

(d) An owner or operator using a combustion device followed by a scrubber or other control device to control halogenated process vents in compliance with §63.506-1(c)(1) of this subpart shall conduct a performance test to determine compliance with the control efficiency or emission limits for hydrogen halides and halogens.

(1) Sampling sites shall be located at the inlet and outlet of the scrubber or other control device used to reduce halogen emissions.

(2) Except as provided in paragraph (d)(4) of this section, Method 26 or Method 26A of 40 CFR part 60, appendix A, shall be used to determine the concentration, in Mg per dry scm, of total hydrogen halides and halogens present in the vent stream. The mass emissions of each hydrogen halide and halogen compound for the batch cycle shall be calculated from the measured concentrations and the gas stream flow rate(s).

(3) To determine compliance with the percent removal efficiency, the mass emissions for any hydrogen halides and halogens present at the inlet of the scrubber or other control device shall be summed together. The mass emissions of the compounds present at the outlet of the scrubber or other control device shall be summed together. Percent reduction shall be determined by subtracting the outlet mass from the inlet mass and then dividing the result by the inlet mass.

(4) The owner or operator may use any other method to demonstrate compliance if the method or data has been

validated according to the applicable procedures of Method 301 of appendix A of this part.

(e) An owner or operator using a scrubber or other control technique to reduce the vent halogen atom mass emission rate to less than 3,750 kg/yr prior to a combustion control device in compliance with §63.506-1(c)(2) shall determine the halogen atom mass emission rate prior to the combustion device according to the procedures in §63.506-2(h).

(f) Owners or operators of aggregate batch process vents shall determine compliance in accordance with paragraphs (f)(1) and (f)(2) of this section, as applicable.

(1) To demonstrate compliance with the provisions of §63.506-1(a)(1) of this subpart for an aggregate batch vent stream, the owner or operator shall comply with paragraph (a) of this section.

(2) To demonstrate compliance with the percent reduction efficiency requirement in §63.506-1(a)(2) or (a)(3) for an aggregate batch vent stream, the owner or operator shall conduct a performance test and determine the percent reduction efficiency using the performance testing procedures for continuous process vents in §63.116(c)(4) of subpart G.

(3) To demonstrate compliance with the percent reduction efficiency requirement in §63.506-1(c)(1) for a halogenated aggregate batch vent stream, the owner or

operator shall conduct a performance test and determine the percent reduction efficiency using the performance testing procedures for continuous process vents in §63.116(d)(1) and (d)(2) of subpart G.

§63.506-5. Recordkeeping requirements for batch process vents.

(a) Except as provided in paragraphs (a)(8) through (a)(10) of this section, each owner or operator of an affected source shall maintain the records specified in (a)(1) through (a)(7) of this section for each batch process vent. The records shall include documentation of all emission estimates, flow rate measurements, and batch process vent group determinations.

(1) An identification of all batch cycles that have one or more batch emission episodes emitting from the batch process vent.

(2) A description of, and an emission estimate for, each batch emission episode, and the total emissions associated with one batch cycle for each type of batch cycle.

(3) Total annual uncontrolled organic HAP emissions, determined at the exit from the unit operation before any emission control or recovery device, determined in accordance with §63.506-2(b) at the batch cycle limitation.

(4) The volatility class, determined in accordance with §63.506-2(c).

(5) The annual average flow rate for the batch process vent, determined in accordance with §63.506-2(e).

(6) The cutoff flow rate, determined in accordance with §63.506-2(f).

(7) The results of the batch process vent group determination, conducted in accordance with §63.506-2(g).

(8) If a batch process vent, or an aggregate batch vent stream, is in compliance with §63.506-1(a), and the control or recovery device is operating at all times when batch emission episodes are venting from the batch process vent, the records in (a)(1) through (a)(7) of this section are not required.

(9) If a batch process vent is in compliance with §63.506-1(a)(2) or (a)(3), but the control or recovery device is operated only during selected batch emission episodes, the records in (a)(4) through (a)(7) of this section are not required.

(10) If the total annual emissions from the batch process vent are less than the levels specified in §63.506-2(d)(1), (d)(2), or (d)(3), as applicable, the records in paragraphs (a)(5) through (a)(7) are not required.

(b) Each owner or operator subject to the control provisions for Group 1 batch process vents in §63.506-1(a), including batch process vents at new SAN sources using a batch process, shall keep the following data, as applicable, up-to-date and readily accessible:

(1) The annual mass emissions of halogen atoms in the vent stream or aggregate batch vent stream, determined according to the procedures specified in §63.506-2(h).

(2) If a batch process vent is in compliance with §63.506-1(a)(2) or (a)(3), but the control or recovery device is operated only during selected batch emission episodes venting from the batch process vent, records demonstrating how the percent reduction requirement in §63.506-1(a)(2) or (a)(3) is being met.

(3) When using a flare to comply with §63.506-1(a):

(i) The flare design (i.e., steam-assisted, air-assisted or non-assisted);

(ii) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by §63.506-4(a); and

(iii) All periods during the compliance determination when the pilot flame is absent.

(4) The following information when using a control or recovery device to achieve compliance with §63.506-1(a)(2) or (a)(3):

(i) For an incinerator or recovery device, the percent reduction of organic HAP or TOC achieved, as determined using the procedures specified in §63.506-4(c) or §63.511(g), as applicable.

(ii) For a boiler or process heater, a description of the location at which the vent stream is introduced into the boiler or process heater; and

(iii) For a boiler or process heater with a design heat input capacity of less than 44 megawatts and where the process vent stream is introduced with combustion air or used as a secondary fuel and is not mixed with the primary fuel, the percent reduction of organic HAP or TOC achieved, as determined using the procedures specified in §63.506-4(c).

(5) When using a scrubber following a combustion device to control a halogenated process vent:

(i) The percent reduction of total hydrogen halides and halogens as specified in §63.506-4(d);

(ii) The pH of the scrubber effluent; and the scrubber liquid-to-gas ratio, as determined during the monitoring required in §63.506-3(a)(4), and specified in Table 5 of this subpart.

(c) For each parameter monitored according to §63.506-3 and Table 5 of this subpart, or §63.506-6(d), maintain documentation showing the establishment of the level that indicates proper operation of the control or recovery device using the procedures specified in §63.506-3(e). The documentation shall include the results of the parameter monitoring for control or recovery devices required in §63.506-3(e)(1), and specified in Table 5 of this subpart.

(d) The owner or operator of a batch process vent with annual emissions greater than or equal to 225 kg but less than the applicable level specified in paragraphs §63.506-2(d) shall keep the following records up-to-date and readily accessible:

(1) Records designating the established batch cycle limitation for the batch process vent, as required under §63.506-1(g)(1). The owner or operator shall also include supporting documentation demonstrating that organic HAP emissions from the batch process vent will be less than the levels specified in §63.506-2(d), as applicable, when the number of batch cycles in the limitation are accomplished.

(2) Records specifying the number and type of batch cycles accomplished each operating day.

(e) The owner or operator of a Group 2 batch process vent with annual emissions greater than or equal to the levels specified in paragraph §63.506-2(d) of this subpart, as applicable, shall keep the following records up-to-date and readily accessible:

(1) Records designating the established batch cycle limitation for the Group 2 batch process vent, as determined in accordance with §63.506-1(f)(1). The owner or operator shall also include supporting documentation demonstrating that organic HAP emissions from the batch process vent will not cause the cutoff flow rate, calculated in accordance with §63.506-2(f), to equal or exceed the annual average

flow rate, when the number of batch cycles in the requested limitation are completed.

(2) Records specifying the number and type of batch cycles accomplished each operating day.

(f) Each owner or operator of a batch process vent that uses a control or recovery device to comply with §63.506-1(a)(1), (a)(2), or (a)(3) shall keep the following records up-to-date and readily accessible:

(1) Continuous records of the equipment operating parameters specified to be monitored under §63.506-3(a) and (b), as applicable, and listed in Table 5 of this subpart, or specified by the Administrator in accordance §63.506-3(c), or specified to be monitored under §63.506-6(d). For flares, the hourly records and records of pilot flame outages specified in Table 5 of this subpart shall be maintained in place of continuous records.

(2) Records of the batch cycle daily average value of each continuously monitored parameter, except as provided in paragraphs (f)(2)(iv) through (f)(2)(vi) of this section, as calculated using the procedures specified in paragraphs (f)(2)(i) through (f)(2)(ii) of this section.

(i) The batch cycle daily average shall be determined in accordance with either paragraph (f)(2)(i)(A) or (f)(2)(i)(B) of this section, as appropriate.

(A) If the duration of the batch cycle is less than or equal to 24 hours, the batch cycle daily average shall be determined by averaging the individual batch cycle parameter averages for all batch cycles accomplished during the operating day. The individual batch cycle parameter average for each batch cycle shall be calculated as the average of all parameter values measured during controlled batch emission episodes in the batch cycle.

(B) If the duration of a batch cycle is greater than 24 hours, the batch cycle daily average shall be calculated as the average of all values for a monitored parameter recorded during the controlled batch emission episodes of a batch cycle.

(ii) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in computing the averages. Records shall be kept of the times and durations of all such periods and any other periods of process or control device operation when monitors are not operating.

(iii) The batch cycle shall be defined in the operating permit or the Notification of Compliance Status in §63.513(b)(5).

(iv) If all recorded values for a monitored parameter during a batch cycle are above the minimum or below the maximum level established in accordance with §63.506-3(e), the owner or operator may record that all values were above the minimum or below the maximum level established rather than calculating and recording an average for that batch cycle.

(v) For flares, records of the times and duration of all periods during which the pilot flame is absent shall be kept rather than averages.

(vi) If carbon adsorber regeneration stream flow and carbon bed regeneration temperature are monitored, the records specified in Table 5 of this subpart shall be kept instead of the averages.

(3) Hourly records of whether the flow indicator specified under §63.506-3(d)(1) was operating and whether flow was detected at any time during the period, as well as records of the times and durations of all periods when the vent stream is diverted from the control or recovery device or the monitor is not operating.

(4) Where a seal or closure mechanism is used to comply with §63.506-3(d)(2), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the duration of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

(5) Records specifying the number and type of batch cycles accomplished each operating day.

(g) Each owner or operator with an aggregate batch vent stream containing one or more Group 1 batch process vents, or with an aggregate batch vent at a new SAN source, using a control or recovery device to comply with §63.506-1(a)(1), (a)(2), or (a)(3), as applicable, shall keep the following records up-to-date and readily accessible:

(1) Where a control device is used, records in accordance with the requirements for continuous process vents in §63.118(a) of subpart G.

(2) Where a recovery device is used, records in accordance with the requirements for continuous process vents in §63.118(b) of subpart G.

§63.506-6 Reporting requirements for batch process vents.

(a) The owner or operator of a batch process vent at an affected source shall submit the information specified in paragraphs (a)(1) through (a)(3) of this section as part of the Notification of Compliance Status specified in §63.513(b)(5).

(1) For each Group 1 batch process vent, aggregate batch process vent streams containing one or more Group 1 batch process vents, and, at new SAN sources, all aggregate batch process vents, the information specified in §63.506-5(b) and (c), as applicable.

(2) For each Group 2 batch process vent with annual emissions less than the applicable level specified in §63.506-2(d), the information specified in §63.506-5(d).

(3) For each Group 2 batch process vent with annual emissions greater than or equal to the applicable level specified in §63.506-2(d), the information specified in §63.506-5(e).

(b) Whenever a process change, as defined in §63.506-2(i), is made that causes a Group 2 batch process vent to become a Group 1 batch process vent, or whenever a process change, as defined in §63.506-2(j), is made that causes the percent reduction for all process vents at new SAN sources to be less than 84 percent, the owner or operator shall submit a report within 180 operating days after the process change as specified in §63.513(b)(3)(iv). The report shall include:

(1) A description of the process change;

(2) For batch process vents complying with §63.506-1(a)(1) or (a)(2), the results of the redetermination of the annual emissions, average flow rate, and cutoff flow rate required under §63.506-2(i) and recorded under §63.506-5(a)(3), (a)(5), and (a)(6);

(3) For process vents complying with §63.506-1(a)(3), the results of the redetermination of the percent reduction required under §63.506-2(j), as specified in §63.506-2(j)(2).

(4) For batch process vents complying with §63.506-1(a)(1) or (a)(2), a statement that the owner or operator will comply with the provisions of §63.506-1 of

this subpart for Group 1 batch process vents in accordance with the compliance schedule described under §63.513(b)(3)(iv); and

(5) For process vents complying with §63.506.1(a)(3), a statement that the owner or operator will comply with the provisions of §63.506-1(a)(3) for batch process vents in accordance with the compliance schedule described in §63.513(b)(3)(iv).

(c) Whenever a process change, as defined in §63.506-2(i) of this subpart, is made that causes a Group 2 batch process vent with annual emissions less than the applicable level specified in §63.506-2(d) to have annual emissions greater than or equal to the applicable level specified in §63.506-2(d), the owner or operator shall submit a report within 180 operating days after the process change. The report may be submitted as part of the next Periodic Report. The report shall contain:

(1) A description of the process change,

(2) The results of the redetermination of the annual emissions, and a determination of the average flow rate and cutoff flow rate value required under §63.506-2(i) and recorded under paragraph (b) of this section, and

(3) A statement that the owner or operator will comply with the requirements specified in §63.506-1(f).

(d) If an owner or operator uses a control or recovery device other than those listed in Table 5 of this subpart or requests approval to monitor a parameter other than those specified §63.506-3 and as identified in Table 5 of this subpart, the owner or operator shall submit a description of planned reporting and recordkeeping procedures as required under §63.513(d) or (c). The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the Implementation Plan or operating permit application.

§63.507 Heat exchange system and process contact cooling tower provisions.

For each heat exchange system located at an affected source, the owner or operator shall comply with the requirements of §63.507-1. For each process contact cooling tower located at an affected source producing PET using any of the processes listed in §63.500(a)(1)(i) through (a)(1)(iv), the owner or operator shall comply with the requirements of §63.507-2 except as provided in §63.510. Monitoring, recordkeeping, and reporting requirements applicable to process contact cooling towers are specified in §63.507-3.

§63.507-1 Standards for heat exchange systems.

For each heat exchange system located at an affected source, the owner or operator shall comply with §63.104(b)(1) through (b)(4) of subpart F, except as provided in §63.104(c) of subpart F, with the differences noted in paragraphs (a) through (c) of this section.

(a) The compliance date for heat exchange systems at affected sources is provided in §63.501.

(b) When the Periodic Report requirements contained in §63.152(c) of subpart G are referred to in §63.104(b) of subpart F, the Periodic Report requirements for this subpart, which are contained in 63.513(b)(6), shall apply.

(c) When an owner or operator invokes the delay of repair provisions as specified in §63.104(b)(3) of subpart F, the information required by §63.104(b)(4)(i) through (b)(4)(v) of subpart F shall be included in the next semi-annual Periodic Report required under §63.513(b)(6). If the leak remains unrepaired, the information shall also be submitted in each subsequent periodic report, until the repair of the leak is reported.

§63.507-2 Standards for process contact cooling towers.

Each owner or operator of an affected source producing PET using any of the processes listed in §63.500(a)(1)(i) through (a)(1)(iv) shall comply with paragraphs (a) and (b) of this section, except as provided in §63.510.

(a) Cooling tower water shall not be used in contact condensers associated with vacuum systems.

(b) Any wastewater stream from the vacuum system containing any of the organic HAP identified in Table 9 of §63.131(f) of subpart G shall comply with the provisions of §63.508 as they apply to Group 1 wastewater streams, regardless of the organic HAP concentration and flowrate of the vacuum system wastewater stream.

§63.507-3 Process contact cooling tower provisions - monitoring, recordkeeping, and reporting requirements.

Owners or operators of new and existing affected sources producing PET using any of the processes listed in §63.500(a)(1)(i) through (a)(1)(iv) shall comply with paragraphs (a) and (b) of this section.

(a) Indicate in the Implementation Plan required in §63.513(b)(3) and in the Notification of Compliance Status required in §63.513(b)(5) that cooling tower water will not be used in contact condensers associated with vacuum systems.

(b) Comply with the monitoring, recordkeeping, and reporting provisions found to in §63.508 as they relate to the control of wastewater from the vacuum system.

§63.508 Wastewater provisions.

(a) For each process wastewater stream originating at an affected source, the owner or operator shall comply with the requirements of §§63.131 through 63.148 of subpart G, with the differences noted in paragraphs (a)(1) through (a)(9) of this section.

(1) The compliance date for process wastewater streams originating at affected sources is provided in §63.501. This replaces references to §63.100 subpart F in §63.132 of subpart G.

(2) When the determination of equivalence criteria in §63.102(b) of subpart F is referred to in §§63.132, 63.133 and 63.137 of subpart G, the provisions in §63.6(g) of subpart A of this part shall apply.

(3) When the storage tank requirements contained in §§63.119 through 63.123 of subpart G are referred to in §§63.132 through 63.148 of subpart G, §63.119 through 63.123 are applicable, with the exception of the differences referred to in §63.504.

(4) When the Implementation Plan requirements contained in §63.151 in subpart G are referred to in §63.146 of subpart G, the requirements contained in §63.513(b)(2), (b)(3), or (b)(4), as applicable, shall apply.

(5) When the Initial Notification requirements in §63.151(b) of subpart G are referred to in §63.146 of subpart G, the Initial Notification requirements contained in §63.513(b)(1) shall apply.

(6) When §63.151(g) and §63.152(e) of subpart G are referred to in 63.146(a)(3) of subpart G, §63.513(e) and §63.513(c) of this subpart, respectively, shall apply.

(7) When the Notification of Compliance Status requirements contained in 63.152(b) of subpart G are referred to in §§63.146 and 63.147 of subpart G, the Notification of Compliance Status requirements for this subpart, which are contained in §63.513(b)(5), shall apply.

(8) When the Periodic Report requirements contained in §63.152(c) of subpart G are referred to in §§63.146 and 63.147 of subpart G, the Periodic Report requirements which are contained in §63.513(b)(6), shall apply.

(9) Equipment leak provisions for this subpart are provided in §63.509. Since §63.509 requires compliance with subpart H, references in subpart G to sections of subpart H are applicable.

(10) When the term "range" is used in §63,143(f), it shall be replaced with the term "level." This level shall be determined using the procedures specified in §63.512.

(b) Each owner or operator of an affected source subject to this subpart shall comply with the requirements for maintenance wastewater in §63.105 of subpart F, except that when §63.105(a) refers to "organic HAPs", as listed in "Table 2" the definition of organic HAP in §63.502 of this subpart shall apply.

§63.509 Equipment leak provisions.

(a) The owner or operator of each affected source subject to this subpart shall comply with the requirements of subpart H of this part for all equipment in organic HAP service, with the differences noted in paragraphs (a)(1) and (a)(2) of this section.

(1) For affected sources producing polystyrene using a continuous process, as listed in §63.500(a)(1)(v), the indications of liquids dripping, as defined in subpart H of

this part, from bleed ports in pumps and agitator seals in light liquid service shall not be considered to be a leak. For purposes of this subpart, a "bleed port" is a technologically-required feature of the pump or seal whereby polymer fluid used to provide lubrication and/or cooling of the pump or agitator shaft exits the pump, thereby resulting in a visible leak of fluid.

(2) The compliance date for the equipment leak provisions in this section is provided in §63.501.

(b) Affected sources subject to subpart I of 40 CFR part 63 shall continue to comply with subpart I until the compliance date for this section specified in §63.501. After the compliance date for this section, the affected source shall be subject to subpart H of 40 CFR part 63 and shall no longer be subject to subpart I.

(c) Each owner or operator of an affected source producing polystyrene using a continuous process, as listed in §63.500(a)(1)(v), shall comply with the requirements specified in paragraph (a) of this section and not with any of the requirements specified in 40 CFR 60.562-2, subpart DDD.

§63.510 Emissions averaging provisions.

(a)(1) This section applies to owners or operators of existing sources who seek to comply with §63.503(b) by using emissions averaging rather than following the provisions of §§63.504, 63.505, 63.507-2 and 63.508.

(2) All emission points included in an emissions average shall be from the same subcategory unless an affected source produces more than one thermoplastic as listed in §63.500(a)(1) as described in the definition of affected source in §63.502. There may be an emissions average for each affected source located at a plant site.

(3) The number of emission points allowed in an average is limited to five. This number may be increased by three additional points if pollution prevention measures are used to control the additional emission points to be included in the average. An additional emission point may be added for each emission point controlled through pollution prevention.

(b) Unless an operating permit application has been submitted, the owner or operator shall develop and submit for approval an Emissions Averaging Plan containing all of the information required in §63.513(b)(4) for all points to be included in an emissions average.

(c) The following emission points can be used to generate emissions averaging credits, if control was applied after November 15, 1990, and if sufficient information is available to determine the appropriate value of credits for the emission point:

(1) Storage vessels, continuous process vents, and process wastewater streams that are determined to be Group 2 emission points.

(2) Continuous process vents located in a material recovery section at an existing PET facility using a continuous DMT process where the uncontrolled TOC emissions from continuous process vents in the material recovery section are equal to or less than 0.12 kg TOC per Mg of product. These process vents shall be considered Group 2 emission points for the purposes of this section.

(3) Storage vessels, continuous process vents, and process wastewater streams that are determined to be Group 1 emission points and that are controlled by a technology that the Administrator or permitting authority agrees has a higher nominal efficiency than the reference control technology. Information on the nominal efficiencies for such technologies must be submitted and approved as provided in paragraph (i) of this section.

(4) Vacuum system wastewater streams at existing PET facilities that are controlled by a technology that the Administrator or permitting authority agrees has a higher nominal efficiency than the reference control technology. Information on the nominal efficiencies for such technologies must be submitted and approved as provided in paragraph (i) of this section. These vacuum wastewater streams shall be considered to be Group 1 emission points for the purposes of this section.

(5) Continuous process vents located in a material recovery section otherwise subject to §63.505(b)(2)(i) where

the process section’s uncontrolled TOC emissions from continuous process vents are greater than 0.12 kg TOC per Mg of product and where the uncontrolled TOC emissions from the process section’s continuous process vents are controlled to a level more stringent than required by §63.505(b)(2)(i)(A) or (b)(2)(i)(B) and continuous process vents located in process sections otherwise subject to §63.505(b)(2), (b)(3), and (c)(2) where the uncontrolled TOC emissions from the process section’s continuous process vents are controlled to a level more stringent than required by §63.505(b)(2)(ii), (b)(3)(i), (b)(3)(ii), (c)(2)(i)(A), (c)(2)(i)(B), or (c)(2)(i)(C). Where an owner or operator is claiming a control level more stringent than that required by §63.505(c)(2)(i)(C), information on the nominal efficiencies for such technologies must be submitted and approved as provided in paragraph (i) of this section. The continuous process vents identified in this paragraph shall be considered to be Group 1 emission points for the purposes of this section.

(6) Storage vessels, continuous process vents, and process wastewater streams (including PET vacuum system wastewater streams) from which emissions are reduced by pollution prevention measures. Percent reductions for pollution prevention measures shall be determined using the procedures specified in paragraph (j) of this section.

(i) For a Group 1 storage vessel, continuous process vent, or process wastewater stream, the pollution prevention measure must reduce emissions more than the applicable reference control technology or standard would have had the reference control technology or standard been applied to the emission point instead of the pollution prevention measure except as provided in paragraph (c)(6)(ii) of this section.

(ii) If a pollution prevention measure is used in conjunction with other controls for a Group 1 storage vessel, continuous process vent, or process wastewater stream, the pollution prevention measure alone does not have to reduce emissions more than the applicable reference control technology or standard, but the combination of the pollution prevention measure and other controls must reduce emissions more than the applicable reference control technology or standard would have had it been applied instead.

(d) The following emission points cannot be used to generate emissions averaging credits:

(1) Emission points already controlled on or before November 15, 1990, unless the level of control is increased after November 15, 1990, in which case credit will be allowed only for the increase in control after November 15, 1990.

(2) Emission points identified in paragraphs (c)(3) through (c)(5) of this section that are controlled by a

reference control technology, unless the reference control technology has been approved for use in a different manner and a higher nominal efficiency has been assigned according to the procedures in paragraph (i) of this section. For example, it is not allowable to claim that an internal floating roof meeting the specifications of §63.119(b) of subpart G applied to a storage vessel is achieving greater than 95 percent control.

(3) Emission points on shut-down process units. Process units that are shut down cannot be used to generate credits or debits.

(4) Wastewater that is not process wastewater or wastewater streams treated in biological treatment units. These two types of wastewater cannot be used to generate credits or debits. For the purposes of this section, the terms wastewater and wastewater stream are used to mean process wastewater.

(5) Emission points controlled to comply with a State or Federal rule other than this subpart, unless the level of control has been increased after November 15, 1990, above what is required by the other State or Federal rule. Only the control above what is required by the other State or Federal rule will be credited. However, if an emission point has been used to generate emissions averaging credit in an approved emissions average, and the point is subsequently made subject to a State or Federal rule other

than this subpart, the point can continue to generate emissions averaging credit for the purpose of complying with the previously approved average.

(6) Process contact cooling towers at existing PET facilities.

(e) For all points included in an emissions average, the owner or operator shall:

(1) Calculate and record monthly debits for all emission points identified in paragraphs (c)(3) through (c)(5) of this section and, at existing PET facilities, all process contact cooling towers that are controlled to a level less stringent than the applicable reference control technology or standard for those emission points. Equations in paragraph (g) of this section shall be used to calculate debits.

(2) Calculate and record monthly credits for all emission points identified in paragraphs (c)(1) through (c)(5) of this section that are overcontrolled to compensate for the debits. Equations in paragraph (h) of this section shall be used to calculate credits. Emission points and controls that meet the criteria of paragraph (c) of this section may be included in the credit calculation, whereas those described in paragraph (d) of this section shall not be included.

(3) Demonstrate that annual credits calculated according to paragraph (h) of this section are greater than

or equal to debits calculated for the same annual compliance period according to paragraph (g) of this section.

(i) The owner or operator may choose to include more than the required number of credit-generating emission points in an average in order to increase the likelihood of being in compliance.

(ii) The initial demonstration in the Emissions Averaging Plan or operating permit application that credit-generating emission points will be capable of generating sufficient credits to offset the debits from the debit-generating emission points must be made under representative operating conditions. After the compliance date, actual operating data will be used for all debit and credit calculations.

(4) Demonstrate that debits calculated for a quarterly (3-month) period according to paragraph (g) of this section are not more than 1.30 times the credits for the same period calculated according to paragraph (h) of this section. Compliance for the quarter shall be determined based on the ratio of credits and debits from that quarter, with 30 percent more debits than credits allowed on a quarterly basis provided that such debits will not exceed the annual credits as defined in the facility’s Emissions Averaging Plan.

(5) Record and report quarterly and annual credits and debits in the Periodic Reports as specified in

§63.513(b)(6). Every fourth Periodic Report shall include a certification of compliance with the emissions averaging provisions as required by §63.513(b)(6)(v)(D)(2).

(f) Debits and credits shall be calculated in accordance with the methods and procedures specified in paragraphs (g) and (h) of this section, respectively, and shall not include emissions from the following:

(1) More than 5 individual emission points. Where pollution prevention measures (as specified in paragraph (j)(1) of this section) are used to control emission points to be included in an emissions average, no more than 8 emission points may be included in the average. For example, if two emission points to be included in an emissions average are controlled by pollution prevention measures, the average may include up to 7 emission points.

(2) Periods of start-up, shutdown, and malfunction as described in the affected source's start-up, shutdown, and malfunction plan required by §63.6(e)(3) of subpart A.

(3) Periods of monitoring excursions as defined in §63.512(d). For these periods, the calculation of monthly credits and debits shall be adjusted as specified in paragraphs (f)(3)(i) through (f)(3)(iii) of this section.

(i) No credits would be assigned to the credit-generating emission point.

(ii) Maximum debits would be assigned to the debit-generating emission point.

(iii) The owner or operator may demonstrate to the Administrator that full or partial credits or debits should be assigned using the procedures in paragraph (l) of this section.

(g) Debits are generated by the difference between the actual emissions from any emission point identified in paragraphs (c)(3) through (c)(5) of this section and, at existing PET facilities, any process contact cooling tower that is uncontrolled or is controlled to a level less stringent than the applicable reference control technology or standard, and the emissions allowed for that emission point. Debits shall be calculated as follows:

(1) Source-wide debits shall be calculated using Equation 28.

$$\text{Debits} = \sum_{i=1}^{n} \left(ECPV_{iACTUAL} - (0.02)ECPV_{iu}\right) + \sum_{j=1}^{n} \left(ECPVS_{jACTUAL} - ECPVS_{jSTD}\right) + \sum_{i=1}^{n} \left(EWW_{iACTUAL} - EWW_{ic}\right) + \sum \ldots \quad \text{[Eq. 28]}$$

where:

Debits and all terms of the equation are in units of megagrams per month, and

$ECPV_{iACTUAL}$ = Emissions from each continuous process vent i identified in paragraph (c)(3) of this section and from continuous process vents in each process section otherwise subject to §63.505(c)(2)(i)(C) that is uncontrolled or is controlled to a level less stringent than the applicable reference control technology or standard. $ECPV_{iACTUAL}$ is calculated according to paragraph (g)(2) of this section.

$(0.02)ECPV_{iu}$ = Emissions from each Group 1 continuous process vent i identified under paragraph (c)(3) of this section and from continuous process vents in each process section otherwise subject to §63.505(c)(2)(i)(C) if the applicable reference control technology or standard had been applied to the uncontrolled emissions. $ECPV_{iu}$ is calculated according to paragraph (g)(2) of this section.

$ECPVS_{jACTUAL}$ = Emissions from all continuous process vents located in process section j whose emissions are either uncontrolled or controlled such that the level of the uncontrolled emissions or the level of the controlled emissions is less stringent than otherwise required under §63.505(b)(2)(i), (b)(2)(ii), (b)(3)(i), (b)(3)(ii), (c)(2)(i)(A), or (c)(2)(i)(B), as applicable. $ECPVS_{jACTUAL}$ is calculated according to paragraph (g)(3) of this section.

$ECPVS_{jSTD}$ = Emissions from process section j otherwise subject to §63.505(b)(2)(i), (b)(2)(ii), (b)(3)(i), (b)(3)(ii), (c)(2)(i)(A), or (c)(2)(i)(B) that would occur if the applicable standard had been met by process section j. $ECPVS_{jSTD}$ is calculated according to paragraph (g)(3) of this section.

$ES_{iACTUAL}$ = Emissions from each Group 1 storage vessel i that is uncontrolled or is controlled to a level less stringent than the reference control technology. This is calculated according to paragraph (g)(4) of this section.

$b(ES_{iu})$ = Emissions from each Group 1 storage vessel i if the applicable reference control technology or standard had been applied to the uncontrolled emissions.

where: b = 0.05, for emissions from each Group 1 storage vessel i subject to §63.504(a) and = 0.02, for emissions from each storage tank i at existing ASA/AMSAN sources subject to §63.504(c)(1). ES_{iu} is calculated according to paragraph (g)(4) of this section.

$EWW_{iACTUAL}$ = Emissions from each Group 1 wastewater stream i identified in paragraph (c)(3) of this section and, at existing PET facilities, from each vacuum system wastewater stream i that is uncontrolled or is controlled to a level less stringent than the reference control technology. $EWW_{iACTUAL}$ is calculated according to paragraph (g)(5) of this section.

EWW_{ic} = Emissions from each Group 1 wastewater stream i identified in paragraph (c)(3) of this section and, at existing PET facilities, from each vacuum system wastewater stream i if the reference control technology had been applied to the uncontrolled emissions. EWW_{ic} is calculated according to paragraph (g)(5) of this section.

$EPCCT_{iACTUAL}$ = Emissions from each process contact cooling tower i at an existing PET facility that is uncontrolled or is controlled to a level less stringent than that required by §63.507-2. $EPCCT_{iACTUAL}$ is calculated according to paragraph (g)(6) of this section.

n = The number of emission points being included in the emissions average. The value of n is not necessarily the same for continuous process vents, storage vessels, wastewater and process contact cooling towers, or for process sections at a facility.

(2) Emissions from continuous process vents shall be calculated as follows:

(i) For purposes of determining continuous process vent stream flow rate, organic HAP concentrations, and temperature, the sampling site shall be after the final product recovery device, if any recovery devices are present; before any control device (for continuous process vents, recovery devices shall not be considered control devices); and before discharge to the atmosphere. Method 1 or 1A of part 60, appendix A, shall be used for selection of the sampling site.

(ii) $ECPV_{iu}$ for each continuous process vent i shall be calculated using Equation 29.

$$ECPV_{iu} = (2.494 \times 10^{-9})\ Qh \left(\sum_{j=1}^{n} C_j M_j \right) \quad \text{[Eq. 29]}$$

where:

$ECPV_{iu}$ = Uncontrolled continuous process vent emission rate from continuous process vent i, megagrams per month.

Q = Vent stream flow rate, dry standard cubic meters per minute, measured using Method 2, 2A, 2C, or 2D of part 60, appendix A, as appropriate.

h = Monthly hours of operation during which positive flow is present in the vent, hours per month.

C_j = Concentration, parts per million by volume, dry basis, of organic HAP j as measured by Method 18 of part 60, appendix A.

M_j = Molecular weight of organic HAP j, gram per gram-mole.

n = Number of organic HAP in stream.

(A) The values of Q and C_j shall be determined during a performance test conducted under representative operating conditions. The values of Q and C_j shall be established in the Notification of Compliance Status and must be updated as provided in paragraph (g)(2)(ii)(B) of this section.

(B) If there is a change in capacity utilization other than a change in monthly operating hours, or if any other change is made to the process or product recovery equipment or operation such that the previously measured values of Q and C_j are no longer representative, a new performance test shall be conducted to determine new representative values of Q and C_j. These new values shall be used to calculate debits and credits from the time of the change forward, and the new values shall be reported in the next Periodic Report.

(iii) The following procedures and equations shall be used to calculate $ECPV_{iACTUAL}$:

(A) If the continuous process vent is not controlled by a control device or pollution prevention measure, $ECPV_{iACTUAL} = ECPV_{iu}$, where $ECPV_{iu}$ is calculated according to the procedures in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(B) If the vent is controlled using a control device or a pollution prevention measure achieving less than 98 percent reduction, calculate $ECPV_{iACTUAL}$ using Equation 30.

$$ECPV_{iACTUAL} = EPV_{iu} \times \left(1 - \frac{\text{Percent reduction}}{100\%}\right) \qquad \text{[Eq. 30]}$$

(1) The percent reduction shall be measured according to the procedures in §63.116 of subpart G if a combustion control device is used. For a flare meeting the criteria in §63.116(a) of subpart G, or a boiler or process heater meeting the criteria in §63.116(b) of subpart G, the percent reduction shall be 98 percent. If a non-combustion control device is used, percent reduction shall be demonstrated by a performance test at the inlet and outlet of the device, or, if testing is not feasible, by a control design evaluation and documented engineering calculations.

(2) For determining debits from Group 1 continuous process vents, product recovery devices shall not be considered control devices and cannot be assigned a percent reduction in calculating $ECPV_{iACTUAL}$. The sampling site for measurement of uncontrolled emissions is after the final product recovery device. However, as provided in §63.113(a)(3) of subpart G, a Group 1 continuous process vent may add sufficient product recovery to raise the TRE index value above 1.0 or, for Group 1 continuous process vents at an existing MBS facility, above 3.7 thereby becoming a Group 2 continuous process vent.

(3) Procedures for calculating the percent reduction of pollution prevention measures are specified in paragraph (j) of this section.

(3) Emissions from continuous process vents in process sections otherwise subject to §63.505(b)(2)(i), (b)(2)(ii), (b)(3)(i), (b)(3)(ii), (c)(2)(i)(A), or (c)(2)(i)(B) shall be calculated as follows:

(i) The total TOC emissions from process vents located in process section j, $ECPVS_{jACTUAL}$, shall be calculated by using the procedures in paragraph (g)(2) of this section to determine the TOC emissions for each individual continuous process vent within the process section, except that the sampling site shall be at the outlet of the last control device or recovery device prior to the vent being released to the atmosphere, and then summing the individual process vent emission rates.

(ii)(A) The emissions that would have been emitted from process section j if it were meeting the applicable standard shall be calculated using Equation 31.

$$ECPVS_{jstd} = EFstd \times PP_j \qquad \text{[Eq. 31]}$$

where:

EF_{std} = 0.000018 Mg TOC/Mg of product, if the process section would otherwise be subject to

§63.505(b)(2)(i)(A) or (b)(2)(i)(B).

= 0.00002 Mg TOC/Mg of product, if the process section would otherwise be subject to §63.505(b)(2)(ii) or (b)(3)(ii).

= 0.00004 Mg TOC/Mg of product, if the process section would otherwise be subject to §63.505(b)(3)(i).

= 0.0000036 Mg TOC/Mg of product, if the process section would otherwise be subject to §63.505(c)(2)(i)(A) or (c)(2)(i)(B).

PP_j = Polymer produced, Mg/month, for process section j as calculated according to paragraph (g)(3)(ii)(B) of this section.

(B) The amount of polymer produced, Mg per month, for process section j shall be determined by determining the weight of polymer pulled in megagrams from the process line(s) during a 30-day period. The polymer produced shall be determined by direct measurement or, subject to prior approval by the Administrator, computed from materials balance by good engineering practice.

(4) Emissions from storage vessels shall be calculated as follows:

(i) Equation 32 shall be used for each storage vessel i to calculate ES_{iu}.

$$ES_{iu} = \frac{L_B + L_W}{12} \quad \text{[Eq. 32]}$$

where:

ES_{iu}	=	Uncontrolled emissions, defined as emissions from a fixed roof vessel having identical dimensions and vessel color as vessel i, megagrams per month.
L_B	=	Breathing loss emissions, megagrams per year, calculated according to paragraph (g)(3)(i)(A) of this section.
L_W	=	Working loss emissions, megagrams per year, calculated according to paragraph (g)(3)(i)(B) of this section.
12	=	Constant, months per year.

(A) Breathing loss emissions shall be calculated using Equation 33.

$$L_B = 1.02 \times 10^{-5} M_V \left(\frac{P}{P_A - P}\right)^{0.68} D^{1.73} H^{0.51} \Delta T^{0.50} F_p C\ K_C$$

[Eq. 33]

where:

M_V	=	Molecular weight of vapor in storage vessel, pound per pound-mole.
P_A	=	Average atmospheric pressure, pounds per square inch absolute.
P	=	True vapor pressure of the HAP at liquid storage temperature (T), pounds per square inch absolute. See Table 21 of subpart G.
D	=	Tank diameter, feet.
H	=	Average vapor space height, feet. Use vessel-specific values or an assumed value of one-half the height.
ΔT	=	Average ambient diurnal temperature change, ^oF. A typical value of 20 ^oF may be used.

F_p = Paint factor, dimensionless, from Table 22 of subpart G of this part; use $F_p = 1$ for vessels located indoors.

C = Adjustment factor for small diameter tanks, dimensionless; use C = 1 for diameter ≥30 feet; use $C = 0.0771D - 0.0013D^2 - 0.1334$ for diameter <30 feet.

K_C = Product factor, dimensionless. Use 1.0 for organic HAP.

(B) Working losses shall be calculated using Equation 34.

$$L_W = 1.089 \times 10^{-8} M_V (P)(V)(N)(K_N)(K_C) \quad \text{[Eq. 34]}$$

where:

V = Tank capacity, gallon.

N = Number of turnovers per year.

K_N = Turnover factor, dimensionless, and

$K_N = \frac{180 + N}{6N}$ for turnovers >36

K_N = 1 for turnovers ≤36

M_V, P, and K_C as defined in paragraph (g(4)(i)(A) of this section.

(C) The owner or operator may elect to calculate ES_{iu} in accordance with the methods described in American Petroleum Institute Publication 2518, Evaporative Loss from Fixed-Roof Tanks (incorporated by reference as specified in §63.14 of this part).

(1) The owner or operator who elects to use these alternative methods must use them for all storage vessels included in the emissions average as debit or credit generating points.

(2) The equations of paragraphs (g)(4)(i)(A) and (g)(4)(i)(B) of this section shall not be used in conjunction with the alternative methods provided under paragraph (g)(4)(i)(C) of this section.

(ii) The following procedures and equations shall be used for each fixed roof storage vessel i that is not controlled with a floating roof to calculate $ES_{iACTUAL}$:

(A) If the vessel is not controlled, $ES_{iACTUAL} = ES_{iu}$, where ES_{iu} is calculated according to the procedures in paragraph (g)(4)(i) of this section.

(B) Except as provided in paragraph (g)(4)(ii)(C) of this section, if the vessel is controlled using a control device or pollution prevention measure achieving less than 95 percent reduction, if otherwise subject to §63.504(a), or less than the 98 percent reduction, if otherwise subject to §63.504(c)(1), calculate $ES_{iACTUAL}$ using Equation 35.

$$ES_{iACTUAL} = ES_{iu} * \left(\frac{1 - \text{Percent reduction}}{100}\right) \quad \text{[Eq. 35]}$$

(1) The percent reduction for a control device shall be determined through a design evaluation according to the procedures specified in §63.120(d)(1)(i) of subpart G.

(2) Procedures for calculating the percent reduction for pollution prevention measures are specified in paragraph (j) of this section.

(C) If the vessel is controlled according to the provisions of §63.119(e)(2) of subpart G whereby the control device is only required to achieve at least 90 percent reduction, the vessel shall not be considered to be generating debits.

(iii) Each internal floating roof vessel i that does not meet the specifications of either §63.119(b) or (d) of subpart G shall calculate $ES_{iACTUAL}$ using Equation 36.

$$ES_{iACTUAL} = \frac{L_W + L_R + L_F + L_D}{12} \quad \text{[Eq. 36]}$$

where:

L_W = Withdrawal loss emissions, megagrams per year, calculated according to paragraph (g)(4)(iii)(A) of this section.

L_R = Rim seal loss emissions, megagrams per year, calculated according to paragraph (g)(4)(iii)(B) of this section.

L_F = Fitting loss emissions, megagrams per year, calculated according to paragraph (g)(4)(iii)(C) of this section.

L_D = Deck seam loss emissions, megagrams per year, calculated according to paragraph (g)(4)(iii)(D) of this section.

12 = Constant, months per year.

(A) Withdrawal loss emissions shall be calculated using Equation 37.

$$L_W = \frac{1.018 \times 10^{-5}\, QCW_L}{D}\left[1 + \left(\frac{N_C\, F_C}{D}\right)\right] \qquad \text{[Eq. 37]}$$

where:

Q = Throughput, gallon per year; (gallon/turnover) * (turnovers per year).

C = Shell clingage factor, barrel per 1,000 square foot, see Table 23 of subpart G.

W_L = Average liquid density, pound per gallon.

D = Tank diameter, feet.

N_C = Number of columns, dimensionless, see Table 24 of subpart G.

F_C = Effective column diameter, feet [column perimeter (feet) ÷ 3.1416], see Table 25 of subpart G.

(B) Rim seal loss emissions shall be calculated using Equation 38.

$$L_R = \frac{K_S V^n P^* D M_V K_C}{2,205} \qquad \text{[Eq. 38]}$$

where:

M_V = Molecular weight of vapor in storage vessel, pound per pound-mole.

D = Tank diameter, feet.

K_C = Product factor, dimensionless; use 1.0 for organic HAP.

K_S = Seal factor, pound-mole per [foot (miles per hour)^n year], see Table 26 of subpart G.

V = Average wind speed at the affected source, miles per hour. A value of 10 miles per hour may be assumed if source-specific data are not available.

n = Seal related wind speed exponent, dimensionless, see Table 26 of subpart.

2,205 = Constant, pounds per megagram.

P^* = Vapor pressure function, dimensionless, and calculated using Equation 39.

$$P^* = \frac{\frac{P}{P_A}}{1 + (1 - P/P_A)\ 0.5^2} \qquad \text{[Eq. 39]}$$

where:

P_A = Average atmospheric pressure, pounds per square inch absolute.

P = True vapor pressure at liquid storage temperature, pounds per square inch absolute.

(C) Fitting loss emissions shall be calculated using Equation 40.

$$L_F = \frac{F_f P^* M_V K_C}{2,205} \qquad \text{[Eq. 40]}$$

where:

F_f	=	The total deck fitting loss factor, pound-mole per year, and calculated using Equation 41.

$$F_f = \sum_{\text{scalesym150iscalesym150=scalesym1501}}^{\text{scalesym}} 150n \left(N_{F_i} K_{F_i}\right) = \left[\left(N_{F_1} K_{F_1}\right) + \left(N_{F_2} K_{F_2}\right) + ... + (N\right.$$

[Eq. 41]

where:

N_{F_i}	=	Number of fittings of a particular type, dimensionless. N_{F_i} is determined for the specific tank or estimated from Tables 24 and 27 of subpart G.
K_{F_i}	=	Deck fitting loss factor for a particular type fitting, pound-mole per year. K_{F_i} is determined for each fitting type from Table 27 of subpart G.
n	=	Number of different types of fittings, dimensionless.

P^*, M_V, K_C, and 2,205 as defined in paragraph (g)(4)(iii)(B) of this section.

(D) Deck seam loss emissions shall be calculated using Equation 42.

$$L_D = \frac{K_D S_D D^2 P^* M_V K_C}{2{,}205} \qquad \text{[Eq. 42]}$$

where:

K_D	=	Deck seam loss factor, pound-mole per foot per year, and
K_D	=	0.34 for non-welded decks.
K_D	=	0 for welded decks.
S_D	=	Deck seam length factor, feet per square foot, see Table 28 of subpart G.

D, P^*, M_V, K_C, and 2,205 as defined in paragraph (g)(4)(iii)(B) of this section.

(iv) $ES_{iACTUAL}$ for each external floating roof vessel i that does not meet the specifications of §63.119(c) of subpart G shall be calculated using Equation 43.

$$ES_{iACTUAL} = \frac{L_W + L_R + L_F}{12} \qquad \text{[Eq. 43]}$$

where:

L_W = Withdrawal loss emissions, megagrams per year, calculated according to paragraph (g)(4)(iv)(A) of this section.

L_R = Rim seal loss emissions, megagrams per year, calculated according to paragraph (g)(4)(iv)(B) of this section.

L_F = Fitting loss emissions, megagrams per year, calculated according to paragraph (g)(4)(iv)(C) of this section.

12 = Constant, months per year.

(A) Withdrawal loss emissions shall be calculated using Equation 44.

$$L_W = \frac{4.28 * 10^{-4}\ QCW_L}{D} \qquad \text{[Eq. 44]}$$

where:

Q = Throughput, gallons per year.

C = Shell clingage factor, barrel per 1,000 square foot, see Table 23 of subpart G.

W_L = Average liquid density, pound per gallon.

D = Vessel diameter, feet.

(B) Rim seal loss emissions shall be calculated using Equation 45.

$$L_R = \frac{K_S V^N P^* D M_V K_C}{2,205} \qquad \text{[Eq. 45]}$$

where:

K_S = Seal factor, pound-mole per [foot (miles per hour)^N year], see Table 29 of subpart G.

V = Average wind speed, miles per hour, at the affected source. A value of 10 miles per hour may be assumed if source-specific data are not available.

N = Seal wind speed exponent, dimensionless, see Table 29 of subpart G.

P^* = Vapor pressure function, dimensionless, as defined in paragraph (g)(4)(iii)(B) of this section.

D = Vessel diameter, feet.

M_V = Molecular weight of the organic HAP, pound per pound-mole.

K_C = Product factor, dimensionless; use 1.0 for organic HAP.

2,205 = Constant, pounds per megagram.

(C) Fitting loss emissions shall be calculated using Equation 46.

$$L_F = \frac{F_F P^* M_V K_C}{2,205} \qquad \text{[Eq. 46]}$$

where:

F_F = The total deck fitting loss factor, pound-mole per year, and calculated using Equation 47.

$$F_F = \sum_{i=1}^{n} (N_{F_i} K_{F_i}) = [(N_{F_1} K_{F_1}) + (N_{F_2} K_{F_2}) + \ldots + (N_{F_n} K_{F_n})] \qquad \text{[Eq. 47]}$$

where:

N_{F_i} = Number of fittings of a particular type, dimensionless. N_{F_i} is determined for the specific tank or estimated from Tables 30 through 32 of subpart G.

K_{F_i} = Deck fitting loss factor for a particular type fitting, pound-mole per year, and

K_{F_i} = $K_{F_{ai}} + K_{F_{bi}} V^{mi}$, pound-mole per year, see Table 30 of subpart G for the appropriate values of K_{F_a}, K_{F_b}, and m for each fitting type.

V, P^*, M_v, K_c, and 2,205 as defined in paragraph (g)(4)(iv)(B) of this section.

(5) Emissions from wastewater streams identified in paragraphs (c)(3) and (c)(4) of this section shall be calculated using Equation 48.

(i) The following equation shall be used for each wastewater stream i to calculate EWW_{ic}:

$$EWW_{ic} = (6.0 * 10^{-8})\, Q_i\, H_i \sum_{m=1} (1 - Fr_m)\, Fe_m\, HAP_{im} + (0.05)(6.0 * 10^{-8})\, Q_i\, H_i \sum_{m=1} (Fr_m\, HAP_{im}) \qquad [48]$$

where:

EWW_{ic} = Monthly wastewater stream emission rate if wastewater stream i is controlled by the reference control technology, megagrams per month.

Q_i	=	Average flow rate for wastewater stream i, as determined by the procedure in §63.144(c)(3) of subpart G, liters per minute.
H_i	=	Number of hours during the month that wastewater stream i was generated, hours per month.
Fr_m	=	Fraction removed of organic HAP m in wastewater, from Table 9 of subpart G, dimensionless.
Fe_m	=	Fraction emitted of organic HAP m in wastewater from Table 9 of subpart G, dimensionless.
s	=	Total number of organic HAP in wastewater stream i.
HAP_{im}	=	Average concentration of organic HAP m in wastewater stream i, parts per million by weight.

(A) HAP_{im} shall be determined for the point of generation or at a location downstream of the point of generation using the sampling procedure in

§63.144(b)(5)(i)(C) of subpart G. The samples collected may be analyzed by either of the following procedures:

(1) A test method or results from a test method that measures organic HAP concentrations in the wastewater, and that has been validated pursuant to section 5.1 or 5.3 of Method 301 of appendix A of this part may be used; or

(2) Method 305 of appendix A of this part may be used to determine C_{im}, the average VOHAP concentration of organic HAP m in wastewater stream i, and then HAP_{im} may be calculated using Equation 49.

$$HAP_{im} = C_{im}/FM_{m}, z \qquad \text{[Eq. 49]}$$

where Fm_{m} for organic HAP m is obtained from Table 34 of subpart G of this part.

(B) Values for Q_{i}, HAP_{im}, and C_{im} shall be determined during a performance test conducted under representative conditions. The average value obtained from three test runs shall be used. The values of Q_{i}, HAP_{im}, and C_{im} shall be established in the Notification of Compliance Status and must be updated as provided in paragraph (g)(5)(i)(C) of this section.

(C) If there is a change to the process or operation such that the previously measured values of Q_{i}, HAP_{im}, and C_{im} are no longer representative, a new performance test shall be conducted to determine new representative values of Q_{i}, HAP_{im}, and C_{im}. These new values shall be used to calculate debits and credits from the time of the change forward, and the new values shall be reported in the next Periodic Report.

(ii) Equation 50 shall be used to calculate $EWW_{iACTUAL}$ for each wastewater stream i that is not managed according to the provisions for waste management units of §§63.133 through 63.137 or §63.138(i)(3) of subpart G, as applicable, which specify equipment and work practices for suppressing and controlling vapors.

$$EWW_{iACTUAL} = (6.0 \times 10^{-8})\, Q_i\, H_i \sum_{\text{scalesym150mscalesym150=scalesym1501}}^{\text{scalesym}} \text{150s}\, Fe_m\, HAP_{im} \;]\; \text{Q 5}$$

where:

$EWW_{iACTUAL}$ = Monthly wastewater stream emission rate if wastewater stream i is uncontrolled or is controlled to a level less stringent than the reference control technology, megagrams per month.

Q_i, H_i, s, Fe_m, and HAP_{im} are as defined and determined according to paragraph (g)(5)(i) of this section.

(iii) Equation 51 shall be used to calculate $EWW_{iACTUAL}$ for each wastewater stream i that is managed according to the requirements of §§63.133 through 63.137 or §63.138(i)(3) of subpart G, as applicable, and wastewater stream i is uncontrolled or is controlled to a level less stringent than the reference control technology (for the purposes of the wastewater emissions averaging provisions, the term control is used to mean treatment).

$$EWW_{iACTUAL} = (6.0 * 10^{-8})\, Q_i\, H_i \sum_{m=1}^{s} \left[Fe_m\, HAP_{im} \left(1 - \right. \right]$$
$$+ \left(1 - \frac{R_i}{100\%}\right) (6.0 * 10^{-8})\, Q_i\, H_i \sum_{m=1}^{s} \left(HAP_{im}\, PR_{im} \right)$$

where:

$EWW_{iACTUAL}$	=	Monthly wastewater stream emission rate if wastewater stream i is uncontrolled or is controlled to a level less stringent than the reference control technology, megagrams per month.
PR_{im}	=	The efficiency of the treatment process, or series of treatment processes, which treat wastewater stream i, in reducing the emission potential of organic HAP m in wastewater, dimensionless, as calculated using Equation 52.

$$PR_{im} = \frac{HAP_{im-in} - HAP_{im-out}}{HAP_{im-in}} \qquad [Eq.\ 52]$$

where:

HAP_{im-in}	=	Average concentration of organic HAP m, parts per million by weight, as defined and determined according to paragraph (g)(5)(i) of this section, in the wastewater entering the first treatment process in the series.
HAP_{im-out}	=	Average concentration of organic HAP m, parts per million by weight, as defined and determined according to paragraph (g)(5)(i) of this section, in the wastewater exiting the last treatment process in the series.
R_i	=	Reduction efficiency of the device used to control any vapor streams emitted and collected from wastewater stream i during treatment, dimensionless, as determined according to the procedures in

§63.145(e) of subpart G of this part.

Q_i, H_i, s, Fe_m, and HAP_{im} are as defined and determined according to paragraph (g)(5)(i) of this section.

(6) Emissions from process contact cooling towers at existing PET facilities shall be calculated for both drift and volatilization losses using good engineering practices and industry-accepted standards. Emissions shall be representative of normal operating conditions over a 14-day period. If analytical methods are used, both inlet and outlet effluent samples shall be taken at least once per shift for 14 consecutive operating days.

(h) Credits are generated by the difference between emissions that are allowed for each Group 1 and Group 2 emission point identified in paragraphs (c)(1) through (c)(5) of this section and the actual emissions from that Group 1 or Group 2 emission point that has been controlled after November 15, 1990 to a level more stringent than what is required by this subpart or any other State or Federal rule or statute. Credits shall be calculated using Equation 53.

(1) Sourcewide credits shall be calculated using Equation 53.

where:

$$Credits = D \sum_{i=l}^{n} (0.02)\ ECPV1_{iu} - ECPV1_{iACTUAL}) + D \sum_{j=1}^{n} (ECPVS_{jSTD} - ECPVS_{jACTUAL}) + D \sum_{i=l}^{m} (ECPV2_{iBASE} - ECPV2_{iACTUAL}) + D \sum_{j=1}^{m} (ECPV2_{jBASE} - ECPV2_{jACTUAL}) + D \sum_{i=l}^{n} bES1_{iu} - ES1_{iACTUAL}) + D \sum_{i=1}^{m} (ES2_{iBASE} - ES2_{iACTUAL}) + D \sum_{i=1}^{n} (EWW1_{ic} - EWW1_{iACTUAL}) + D \sum_{i=1}^{m} (EWW2_{iBASE} - EWW2_{iACTUAL}) \quad \text{[Eq. 53]}$$

Credits and all terms of the equation are in units of megagrams per month, the baseline date is November 15, 1990, and

D = Discount factor = 0.9 for all credit generating emission points except those controlled by a pollution prevention measure, which will not be discounted.

$ECPV1_{iACTUAL}$ = Emissions for each Group 1 continuous process vent i identified in paragraph (c)(3) of this section and from continuous process vents in each process section otherwise subject to §63.505(c)(2)(i)(C) that is controlled to a level more stringent than the reference control technology. $ECPV1_{iACTUAL}$ is calculated according to paragraph (h)(2)(ii) of this section.

$0.02ECPV1_{iu}$ = Emissions from each Group 1 continuous process vent i identified in paragraph (c)(3) of this section and from continuous process vents from each process section otherwise subject to §63.505(c)(2)(i)(C) if the applicable reference control technology or standard had been applied to the uncontrolled emissions. $ECPV1_{iu}$ is calculated according to paragraph (h)(2)(ii) of this section.

$ECPVS_{jSTD}$ = The emissions from process section j otherwise subject to §63.505(b)(2)(i), (b)(2)(ii), (b)(3)(i), (b)(3)(ii), (c)(2)(i)(A), or (c)(2)(i)(B) that would occur if the applicable standard had been met by process section j. $ECPVS_{jSTD}$ is calculated according to paragraph (g)(3) of this section.

$ECPVS_{jACTUAL}$ = Emissions from all continuous process vents located in process section j whose emissions are either uncontrolled or controlled such that the level of the uncontrolled emissions or the level of the uncontrolled emissions is less stringent than otherwise required under §63.505(b)(2)(i), (b)(2)(ii), (b)(3)(i), (b)(3)(ii), (c)(2)(i)(A), or (c)(2)(i)(B), as applicable. $ECPVS_{jACTUAL}$ is calculated according to paragraph (g)(3) of this section.

$ECPV2_{iACTUAL}$ = Emissions from each Group 2 continuous process vent i identified in paragraph (c)(1) of this section that is controlled and emissions from each process section identified in paragraph (c)(2) of this section and that is controlled to a level more stringent than 0.018 kg TOC per Mg of product. $ECPV2_{iACTUAL}$ is calculated according to paragraph (h)(2)(iii) of this section.

$ECPV2_{iBASE}$ = Emissions from each Group 2 continuous process vent i identified in paragraph (c)(1) of this section and emissions from each process section identified in paragraph (c)(2) of this section at the baseline date. $ECPV2_{iBASE}$ is calculated in paragraph (h)(2)(iv) of this section.

$ECPV2_{jBASE}$ = Emissions from material recovery section j at existing PET facilities using a DMT continuous process determined not to be subject to §63.505(b)(2)(i) at the baseline date. $ECPV2_{jBASE}$ is calculated according to paragraph (6)(2)(iv) of this section.

$ECPV2_{jACTUAL}$ = Emission from material recovery section j at existing PET facilities using a DMT continuous process determined not to be subject to §63.505(b)(2)(i), calculated according to paragraph (h)(2)(iii) of this section

$ES1_{iACTUAL}$ = Emissions from each Group 1 storage vessel i that is controlled to a level more stringent than the applicable reference control technology or standard. $ES1_{iACTUAL}$ is calculated according to paragraph (h)(3)(ii) of this section.

$bES1_{iu}$ = Emissions from each Group 1 storage vessel i if the applicable reference control technology or standard had been applied to the uncontrolled emissions.

where: b = 0.05, for emissions from each Group 1 storage vessel i subject to §63.504(a) and = 0.02, for emissions from each storage tank i at existing ASA/AMSAN sources subject to §63.504(c)(1).

$ES1_{iu}$ is calculated according to paragraph (h)(3)(i) of this section.

$ES2_{iACTUAL}$ = Emissions from each Group 2 storage vessel i that is controlled, as calculated according to paragraph (h)(3)(iii) of this section.

$ES2_{iBASE}$ = Emissions from each Group 2 storage vessel i at the baseline date, as calculated in paragraph (h)(3)(iv) of this section.

$EWW1_{iACTUAL}$ = Emissions from each Group 1 wastewater stream i that is controlled to a level more stringent than the reference control technology, as calculated according to paragraph (h)(5)(ii) of this section.

$EWW1_{ic}$ = Emissions from each Group 1 wastewater stream i if the reference control technology had been applied to the uncontrolled emissions, as calculated according to paragraph (h)(5)(i) of this section.

$EWW2_{iACTUAL}$ = Emissions from each Group 2 wastewater stream i that is controlled, as calculated according to paragraph (h)(5)(ii) of this section.

$EWW2_{iBASE}$ = Emissions from each Group 2 wastewater stream i at the baseline date, as calculated according to paragraph (h)(5)(iii) of this section.

n = Number of Group 1 emission points included in the emissions average. The value of n is not necessarily the same for continuous process vents, storage vessels, and wastewater, or for process sections at a facility.

m = Number of Group 2 emission points included in the emissions average. The value of m is not necessarily the same for continuous process vents, storage vessels, and wastewater, or for process sections at a facility.

(i) For an emission point controlled using a reference control technology or meeting paragraph §63.505(c)(2)(i)(C), the percent reduction for calculating credits shall be no greater than the nominal efficiency associated with the reference control technology, unless a higher nominal efficiency is assigned as specified in paragraph (h)(1)(ii) of this section.

(ii) For an emission point controlled to a level more stringent than the reference control technology, the nominal efficiency for calculating credits shall be assigned as described in paragraph (i) of this section. A reference control technology may be approved for use in a different manner and assigned a higher nominal efficiency according to the procedures in paragraph (i) of this section.

(iii) For an emission point controlled using a pollution prevention measure, the nominal efficiency for calculating credits shall be as determined as described in paragraph (j) of this section.

(2) Emissions from continuous process vents shall be determined as follows:

(i) Uncontrolled emissions from Group 1 continuous process vents, $ECPV1_{iu}$, shall be calculated according to the procedures and equation for $ECPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(ii) Actual emissions from Group 1 continuous process vents controlled using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than 98 percent emission reduction, $ECPV1_{iACTUAL}$, shall be calculated using Equation 54.

$$ECPV1_{iACTUAL} = ECPV1_{iu}\left(1 - \frac{\text{Nominal efficiency }\%}{100\%}\right) \quad \text{[Eq. 54]}$$

(iii) The following procedures shall be used to calculate actual emissions from Group 2 continuous process vents:

(A) For a Group 2 continuous process vent identified in paragraph (c)(1) of this section controlled by a control device, a recovery device applied as a pollution prevention project, or a pollution prevention measure, if the control achieves a percent reduction less than or equal to 98 percent reduction,

$$ECPV2_{iACTUAL} = ECPV2_{iu} \times \left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad \text{[Eq. 55]}$$

(_1_) $ECPV2_{iu}$ shall be calculated according to the equations and procedures for $ECPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section, except as provided in paragraph (h)(2)(iii)(A)(_3_) of this section.

(_2_) The percent reduction shall be calculated according to the procedures in paragraphs (g)(2)(iii)(B)(_1_) through (g)(2)(iii)(B)(_3_) of this section, except as provided in paragraph (h)(2)(iii)(A)(_4_) of this section.

(_3_) If a recovery device was added as part of a pollution prevention project, $ECPV2_{iu}$ shall be calculated prior to that recovery device. The equation for $ECPV_{iu}$ in paragraph (g)(2)(ii) of this section shall be used to calculate $ECPV2_{iu}$; however, the sampling site for measurement of vent stream flow rate and organic HAP concentration shall be at the inlet of the recovery device.

(_4_) If a recovery device was added as part of a pollution prevention project, the percent reduction shall be demonstrated by conducting a performance test at the inlet and outlet of that recovery device.

(B) For a Group 2 continuous process vent identified in paragraph (c)(1) of this section controlled using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than 98 percent reduction,

$$ECPV2_{iACTUAL} = ECPV2_{iu}\left(1 - \frac{\text{Nominal efficiency \%}}{100\%}\right) \quad \text{[Eq. 56]}$$

(C) For continuous process vents from material recovery sections at existing PET facilities using a continuous DMT process where control technologies or pollution prevention measures are reducing emissions from the continuous process vents to less than the emissions at the baseline date, $EPCV2_{jACTUAL}$ shall be calculated according to the procedures specified in paragraph (g)(3) of this section.

(iv) Emissions from Group 2 continuous process vents at baseline shall be calculated as follows:

(A) If the continuous process vent was uncontrolled on November 15, 1990, $ECPV2_{iBASE} = ECPV2_{iu}$ and shall be calculated according to the procedures and equation for $ECPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(B) If the continuous process vent was controlled on November 15, 1990,

$$ECPV2_{iBASE} = ECPV2_{iu}\left(1 - \frac{\text{Percent reduction }\%}{100\%}\right) \qquad \text{[Eq. 57]}$$

where $ECPV2_{iu}$ is calculated according to the procedures and equation for $ECPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section. The percent reduction shall be calculated according to the procedures specified in paragraphs (g)(2)(iii)(B)(1) through (g)(2)(iii)(B)(3) of this section.

(C) If a recovery device was added to a continuous process vent as part of a pollution prevention project initiated after November 15, 1990, $ECPV2_{iBASE} = ECPV2_{iu}$, where $ECPV2_{iu}$ is calculated according to paragraph (h)(2)(iii)(A)(3) of this section.

(D) Emissions from material recovery sections identified in paragraph (c)(2) of this section at baseline, $ECPV2_{jBASE}$, shall be calculated according to the procedures specified in paragraph (g)(3) of this section.

(3) Emissions from storage vessels shall be determined as follows:

(i) Uncontrolled emissions from Group 1 storage vessels, $ES1_{iu}$, shall be calculated according to the equations and procedures for ES_{iu} in paragraph (g)(4)(i) of this section.

(ii) Actual emissions from Group 1 storage vessels controlled using a technology with an approved nominal efficiency greater than 95 percent or a pollution prevention measure achieving greater than 95 percent emission reduction, $ES1_{iACTUAL}$, and actual emissions from storage vessels at existing ASA/AMSAN facilities subject to §63.504(c) using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than 98 percent emission reduction shall be calculated using Equation 58.

$$ES1_{iACTUAL} = ES1_{iu}\left(1 - \frac{\text{Nominal efficiency \%}}{100\%}\right) \qquad \text{[Eq. 58]}$$

(iii) The following procedures shall be used to calculate actual emissions from Group 2 storage vessels, $ES2_{iACTUAL}$:

(A) For a Group 2 storage vessel controlled using a control device or a pollution prevention measure (other than an internal or external floating roof) achieving a percent reduction less than or equal to 95 percent reduction, use Equation 59.

$$ES2_{iACTUAL} = ES2_{iu} \times \left(1 - \frac{\text{Percent reduction}}{100\%}\right) \qquad \text{[Eq. 59]}$$

(1) $ES2_{iu}$ is calculated according to the equations and procedures for ES_{iu} in paragraph (g)(4)(i) of this section.

(2) The percent reduction shall be calculated according to the procedures in paragraphs (g)(4)(ii)(B)(1) and (g)(4)(ii)(B)(2) of this section.

(3) If an internal or external floating roof meeting the specifications of §63.119(b), (c), or (d) of subpart G is used to control the vessel, the percent reduction shall be 95 percent.

(B) If a Group 2 storage vessel is controlled with an internal or external floating roof not meeting the specifications of §63.119(b), (c), or (d) of subpart G, $ES2_{iACTUAL}$ shall be calculated as specified for $ES_{iACTUAL}$ in paragraph (g)(4)(iii) or (g)(4)(iv) of this section.

(C) For a Group 2 storage vessel controlled using a technology with an approved nominal efficiency greater than 95 percent or a pollution prevention measure achieving greater than 95 percent reduction, use Equation 60.

$$ES2_{iACTUAL} = ES2_{iu}\left(1 - \frac{\text{Nominal efficiency \%}}{100\%}\right) \qquad \text{[Eq. 60]}$$

(iv) Emissions from Group 2 storage vessels at baseline, $ES2_{iBASE}$, shall be calculated as follows:

(A) If the fixed-roof vessel was uncontrolled on November 15, 1990, $ES2_{iBASE} = ES2_{iu}$ and shall be calculated according to the procedures and equations for ES_{iu} in paragraph (g)(4)(i) of this section.

(B) If the storage vessel was controlled on November 15, 1990:

(1) The equations for $ES_{iACTUAL}$ in paragraph (g)(4)(iii) of this section shall be used to calculate $ES2_{iBASE}$ for vessels controlled with an internal

floating roof that does not meet the specifications of either §63.119(b) or (d) of subpart G.

(2) The equations for $ES_{iACTUAL}$ in paragraph (g)(4)(iv) of this section shall be used to calculate $ES2_{iBASE}$ for vessels controlled with an external floating roof that does not meet the specifications of §63.119(c) of subpart G.

(3) The following equation shall be used to calculate $ES2_{iBASE}$ for vessels controlled with a control device,

$$ES2_{iBASE} = ES2_{iu}\left(1 - \frac{\text{Percent reduction }\%}{100\%}\right) \quad \text{[Eq. 61]}$$

where $ES2_{iu}$ shall be calculated according to the equations for ES_{iu} in paragraph (g)(4)(i) of this section. The percent reduction shall be calculated according to the procedures in paragraphs (g)(4)(ii)(B)(1) and (g)(4)(ii)(B)(2) of this section.

(4) Reserved.

(5) Emissions from wastewater shall be determined as follows:

(i) $EWW1_{ic}$ shall be calculated according to the equation for EWW_{ic} in paragraph (g)(5)(i) of this section.

(ii) $EWW2_{iACTUAL}$ shall be calculated according to the equation for $EWW_{iACTUAL}$ in paragraph (g)(5)(ii) of this section for each Group 2 wastewater stream i, which, on November 15, 1990, was not managed according to the requirements of §§63.133 through 63.137 or §63.138(i)(3) of subpart G, as applicable.

(iii) $EWW2_{iBASE}$ shall be calculated according to the equation for $EWW_{iACTUAL}$ in paragraph (g)(5)(iii) of this section for each Group 2 wastewater stream i, which, on November 15, 1990, was managed according to the requirements of §§63.133 through 63.137 or §63.138(i)(3) of subpart G, as applicable, and was uncontrolled or controlled to a level less stringent than the reference control technology.

(iv) For Group 2 wastewater streams that are managed according to the requirements of §§63.133 through 63.137 or §63.138(i)(3) of subpart G, as applicable, $EWW2_{iACTUAL}$ shall be calculated as follows:

(A) $EWW2_{iACTUAL}$ shall be calculated according to the equation for $EWW_{iACTUAL}$ in paragraph (g)(5)(iii) of this section for each Group 2 wastewater stream i that is controlled to a level less stringent than, or equivalent to, the reference control technology.

(B) $EWW2_{iACTUAL}$ shall be calculated according to the procedures for calculating $EWW1_{iACTUAL}$ in paragraph (h)(5)(v) of this section for each Group 2 wastewater stream that is controlled to a level more stringent than the reference control technology.

(v) The following equations for $EWW1_{iACTUAL}$ shall be used to calculate emissions from each Group 1 wastewater stream i and, at existing PET facilities, from each vacuum system wastewater stream i that is managed according to the requirements of §§63.133 through 63.137 or §63.138(i)(3) of subpart G, as applicable, and is controlled to a level more stringent than the reference control technology.

(A) If the Group 1 or PET vacuum system wastewater stream i is controlled using a treatment process or series of treatment processes with an approved nominal reduction efficiency in the total VOHAP concentration of stream i greater than that of the design steam stripper specified in §63.138(g) of subpart G, and the control device used to reduce organic HAP emissions from the vapor stream(s) vented from the treatment process(es) achieves a percent reduction equal to 95 percent, Equation 62 shall be used:

$$EWW1_{iACTUAL} = (6.0 * 10^{-8})\, Q_i\, H_i \sum_{m=1} \left[Fe_m\, HAP_{im}\, (1 \right.$$

$$0.05\, (6.0 * 10^{-8})\, Q_i\, H_i \sum_{m=1} \left[HAP_{im}\, PR_{im} \right]$$

[Eq. 62]

where all terms are as defined and determined in paragraph (g)(5)of this section.

(B) If the Group 1 or PET vacuum system wastewater stream i is not controlled using a treatment process or series of treatment processes with a nominal reduction efficiency in the total VOHAP concentration greater than that of the design steam stripper specified in §63.138(g) of subpart G, but the vapor stream(s) vented from the treatment process(es) are controlled using a device with an approved nominal efficiency greater than 95 percent, Equation 63 shall be used.

$$EWW1_{iACTUAL} = (6.0 * 10^{-8})\ Q_i\ H_i \sum_{scalesym150mscalesym150=scalesym1501}^{scalesym} 150s\left[Fe_m\ HAP_{im}\ (1\right.$$

$$\left(1 - \frac{\text{Nominal efficiency \%}}{100}\right)(6.0 * 10^{-8})\ Q_i\ H_i \sum_{scalesym150mscalesym150=scalesym1501}^{scalesym}$$

[Eq. 63]

where all terms other than nominal efficiency are as defined and determined in paragraph (g)(5) of this section.

(C) If the Group 1 or PET vacuum system wastewater stream i is controlled using a treatment process or series of treatment processes with an approved nominal reduction efficiency in the total VOHAP concentration greater than that of the design steam stripper specified in §63.138(g) of subpart G, and the vapor stream(s) vented from the treatment process are controlled using a device with an approved nominal efficiency greater than 95 percent, Equation 64 shall be used.

$$EWW1_{iACTUAL} = (6.0 * 10^{-8})\ Q_i\ H_i \sum_{scalesym150mscalesym150=scalesym1501}^{scalesym} 150s\left[Fe_m\ HAP_{im}\ (1\right.$$

$$\left(1 - \frac{\text{Nominal efficiency \%}}{100}\right)(6.0 * 10^{-8})\ Q_i\ H_i \sum_{scalesym150mscalesym150=scalesym1501}^{scalesym}$$

[Eq. 64]

where all terms other than nominal efficiency are as defined and determined in paragraph (g)(5) of this section.

(i) The following procedures shall be followed to establish nominal efficiencies for emission controls for storage vessels, continuous process vents, and process wastewater streams (including PET vacuum system wastewater steams). The procedures in paragraphs (i)(1) through (i)(6) of this section shall be followed for control technologies that are different in use or design from the reference control technologies and achieve greater percent reductions than the percent efficiencies assigned to the reference control technologies in §63.111 of subpart G.

(1) In those cases where the owner or operator is seeking permission to take credit for use of a control technology that is different in use or design from the reference control technology, and the different control technology will be used in more than three applications at a single plant-site, the owner or operator shall submit the information specified in paragraphs (i)(1)(i) through (i)(1)(iv) of this section to the Director of the EPA Office of Air Quality Planning and Standards in writing:

(i) Emission stream characteristics of each emission point to which the control technology is or will be applied including the kind of emission point, flow, organic HAP concentration, and all other stream characteristics necessary to design the control technology or determine its performance.

(ii) Description of the control technology including design specifications.

(iii) Documentation demonstrating to the Administrator's satisfaction the control efficiency of the control technology. This may include performance test data collected using an appropriate EPA method or any other method validated according to Method 301 of appendix A of this part. If it is infeasible to obtain test data, documentation may include a design evaluation and calculations. The engineering basis of the calculation procedures and all inputs and assumptions made in the calculations shall be documented.

(iv) A description of the parameter or parameters to be monitored to ensure that the control technology will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) The Administrator shall determine within 120 operating days whether an application presents sufficient information to determine nominal efficiency. The Administrator reserves the right to request specific data in addition to the items listed in paragraph (i)(1) of this section.

(3) The Administrator shall determine within 120 operating days of the submittal of sufficient data whether a control technology shall have a nominal efficiency and the level of that nominal efficiency. If, in the Administrator's judgment, the control technology achieves a

level of emission reduction greater than the reference control technology for a particular kind of emission point, the Administrator will publish a FEDERAL REGISTER notice establishing a nominal efficiency for the control technology.

(4) The Administrator may condition permission to take emission credits for use of the control technology on requirements that may be necessary to ensure operation and maintenance to achieve the specified nominal efficiency.

(5) In those cases where the owner or operator is seeking permission to take credit for use of a control technology that is different in use or design from the reference control technology and the different control technology will be used in no more than three applications at a single plant site, the information listed in paragraphs (i)(1)(i) through (i)(1)(iv) of this section can be submitted to the permitting authority for the affected source for approval instead of the Administrator.

(i) In these instances, use and conditions for use of the control technology can be approved by the permitting authority as part of an operating permit application or modification. The permitting authority shall follow the procedures specified in paragraphs (i)(2) through (i)(4) of this section except that, in these instances, a FEDERAL REGISTER notice is not required to establish the nominal efficiency for the different technology.

(ii) If, in reviewing the application, the permitting authority believes the control technology has broad applicability for use by other affected sources, the permitting authority shall submit the information provided in the application to the Director of the EPA Office of Air Quality Planning and Standards. The Administrator shall review the technology for broad applicability and may publish a FEDERAL REGISTER notice; however, this review shall not affect the permitting authority's approval of the nominal efficiency of the control technology for the specific application.

(6) If, in reviewing an application for a control technology for an emission point, the Administrator or permitting authority determines the control technology is not different in use or design from the reference control technology, the Administrator or permitting authority shall deny the application.

(j) The following procedures shall be used for calculating the efficiency (percent reduction) of pollution prevention measures for storage vessels, continuous process vents, and wastewater streams (including PET vacuum system wastewater streams):

(1) A pollution prevention measure is any practice that meets the criteria of paragraphs (j)(1)(i) and (j)(1)(ii) of this section.

(i) A pollution prevention measure is any practice that results in a lesser quantity of organic HAP emissions per unit of product released to the atmosphere prior to out-of-process recycling, treatment, or control of emissions, while the same product is produced.

(ii) Pollution prevention measures may include: substitution of feedstocks that reduce organic HAP emissions; alterations to the production process to reduce the volume of materials released to the environment; equipment modifications; housekeeping measures; and in-process recycling that returns waste materials directly to production as raw materials. Production cutbacks do not qualify as pollution prevention.

(2) The emission reduction efficiency of pollution prevention measures implemented after November 15, 1990, can be used in calculating the actual emissions from an emission point in the debit and credit equations in paragraphs (g) and (h) of this section.

(i) For pollution prevention measures, the percent reduction used in the equations in paragraphs (g)(2) through (g)(5) of this section and paragraphs (h)(2) through (h)(5) of this section is the percent difference between the monthly organic HAP emissions for each emission point after the pollution prevention measure for the most recent month versus monthly emissions from the same emission point before the pollution prevention measure, adjusted by the volume of product produced during the two monthly periods.

(ii) Equation 65 shall be used to calculate the percent reduction of a pollution prevention measure for each emission point.

$$\text{Percent reduction} = \frac{E_B - \frac{(E_{pp} \times P_B)}{P_{pp}}}{E_B} \times 100\% \quad \text{[Eq. 65]}$$

where:

Percent reduction = Efficiency of pollution prevention measure (percent organic HAP reduction).

E_B = Monthly emissions before the pollution prevention measure, megagrams per month, determined as specified in paragraphs (j)(2) (ii) (A), (j)(2)(ii)(B), and (j)(2)(ii) (C) of this section.

E_{pp} = Monthly emissions after the pollution prevention measure, megagrams per month, as determined for the most recent month, determined as specified in either paragraphs (j)(2)(ii)(D) or (j)(2)(ii)(E) of this section.

P_B = Monthly production before the pollution prevention measure, megagrams per month, during the same period over which E_B is calculated.

P_{pp} = Monthly production after the pollution prevention measure, megagrams per month, as determined for the most recent month.

(A) The monthly emissions before the pollution prevention measure, E_B, shall be determined in a manner consistent with the equations and procedures in paragraphs (g)(2) and (g)(3) of this section for continuous process vents and storage vessels.

(B) For wastewater, E_B shall be calculated using Equation 66.

$$E_B = \sum_{\text{scalesym150iscalesym150=scalesym1501}}^{\text{scalesym}} 150n \left[(6.0 * 10^{-8})\ Q_{Bi}\ H_{Bi} \sum_{\text{scalesym150mscalesym150=}}^{\text{scalesym}} \ldots \right.$$

where:

n = Number of wastewater streams.

Q_{Bi} = Average flow rate for wastewater stream i before the pollution prevention measure, defined and determined according to §63.144(c)(3) of subpart G, liters per minute, before implementation of the pollution prevention measure.

H_{Bi} = Number of hours per month that wastewater stream i was discharged before the pollution prevention measure, hours per month.

s = Total number of organic HAP in wastewater stream i.

Fe_m = Fraction emitted of organic HAP m in wastewater from Table 9 of subpart G of this part, dimensionless.

HAP_{Bim} = Average concentration of organic HAP m in wastewater stream i, defined and determined according to paragraph (g)(5)(i) of this section, before the pollution prevention measure, parts per million by weight, as measured before the implementation of the pollution measure.

(C) If the pollution prevention measure was implemented prior to [**insert promulgation date**] records may be used to determine E_B.

(D) The monthly emissions after the pollution prevention measure, E_{pp}, may be determined during a performance test or by a design evaluation and documented engineering calculations. Once an emissions-to-production ratio has been established, the ratio can be used to estimate monthly emissions from monthly production records.

(E) For wastewater, E_{pp} shall be calculated using Equation 67.

$$E_{pp} = \sum_{i=1}^{s} 150n \left[(6.0 * 10^{-8}) Q_{ppi} H_{ppi} \sum_{m} \right.$$

where n, Q_{ppi}, H_{ppi}, s, Fe_m, and HAP_{ppim} are defined and determined as described in paragraph (j)(2)(ii)(B) of this section except that Q_{ppi}, H_{ppi}, and HAP_{ppim} shall be determined after the pollution prevention measure has been implemented.

(iii) All equations, calculations, test procedures, test results, and other information used to determine the percent reduction achieved by a pollution prevention measure for each emission point shall be fully documented.

(iv) The same pollution prevention measure may reduce emissions from multiple emission points. In such cases, the percent reduction in emissions for each emission point must be calculated.

(v) For the purposes of the equations in paragraphs (h)(2) through (h)(5) of this section, used to calculate credits for emission points controlled more stringently than the reference control technology, the nominal efficiency of a pollution prevention measure is equivalent to the percent reduction of the pollution prevention measure. When a pollution prevention measure is used, the owner or operator of an affected source is not required to apply to the Administrator for a nominal efficiency and is not subject to paragraph (i) of this section.

(k) The owner or operator must demonstrate that the emissions from the emission points proposed to be included in the average will not result in greater hazard or, at the option of the Administrator, greater risk to human health or the environment than if the emission points were controlled according to the provisions in §§63.504, 63.505, 63.507-2, and 63.508.

(1) This demonstration of hazard or risk equivalency shall be made to the satisfaction of the Administrator.

(i) The Administrator may require owners and operators to use specific methodologies and procedures for making a hazard or risk determination.

(ii) The demonstration and approval of hazard or risk equivalency shall be made according to any guidance that the Administrator makes available for use.

(2) Owners and operators shall provide documentation demonstrating the hazard or risk equivalency of their proposed emissions average in their operating permit application or in their Emissions Averaging Plan if an operating permit application has not yet been submitted.

(3) An Emissions Averaging Plan that does not demonstrate hazard or risk equivalency to the satisfaction of the Administrator shall not be approved. The Administrator may require such adjustments to the Emissions Averaging Plan as are necessary in order to ensure that the average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to §§63.504, 63.505, 63.507-2, and 63.508.

(4) A hazard or risk equivalency demonstration must:

(i) be a quantitative, bona fide chemical hazard or risk assessment;

(ii) account for differences in chemical hazard or risk to human health or the environment; and

(iii) meet any requirements set by the Administrator for such demonstrations.

(l) For periods of parameter monitoring excursions, an owner or operator may request that the provisions of paragraphs (l)(1) through (l)(4) of this section be followed instead of the procedures in paragraphs (f)(3)(i) and (f)(3)(ii) of this section.

(1) The owner or operator shall notify the Administrator of monitoring excursions in the Periodic Reports as required in §63.513(b)(6)(ii).

(2) The owner or operator shall demonstrate that other types of monitoring data or engineering calculations are appropriate to establish that the control device for the emission point was operating in such a fashion to warrant assigning full or partial credits and debits. This demonstration shall be made to the Administrator’s satisfaction, and the Administrator may establish procedures of demonstrating compliance that are acceptable.

(3) The owner or operator shall provide documentation of the excursion and the other type of monitoring data or engineering calculations to be used to demonstrate that the control device for the emission point was operating in such a fashion to warrant assigning full or partial credits and debits.

(4) The Administrator may assign full or partial credit and debits upon review of the information provided.

(m) For each emission point included in an emissions average, the owner or operator shall perform testing, monitoring, recordkeeping, and reporting equivalent to that required for Group 1 emission points complying with §§63.504, 63.505, 63.507-2, and 63.508. The specific requirements for continuous process vents, storage vessels, wastewater operations and process contact cooling towers are identified in paragraphs (m)(1) through (m)(6) of this section.

(1) The affected source shall implement the following testing, monitoring, recordkeeping, and reporting procedures for each continuous process vent equipped with a flare, incinerator, boiler, or process heater.

(i) As required by §63.505, determine whether the continuous process vent is Group 1 or Group 2 according to the procedures in §63.115 of subpart G.

(ii) Determine whether the emissions from the material recovery section at existing PET facilities using a continuous DMT process are greater than, equal to, or less than 0.12 kg TOC per Mg of product using the procedures specified in §63.512(d).

(iii) Conduct initial performance tests to determine percent reduction as required by §63.505 of this subpart, and as specified in §63.116 of subpart G, and to determine the emission rate, ER_{TOC}, for each process section complying with §63.505(b)(2)(i)(A), (b)(2)(ii), (b)(3)(i), (b)(3)(ii), and (c)(2)(i)(A) using the procedures specified in §63.511(d).

(iv) Monitor the operating parameters, keep records, and submit reports as required by §63.505, as specified in §§63.114, §63.117(a), and §63.118(a), (f), and (g) of subpart G, as appropriate for the specific control device.

(2) The affected source shall implement the following procedures for each continuous process vent equipped with a carbon adsorber, absorber, or condenser but not equipped with a control device:

(i) Determine the flow rate, organic HAP concentration, and TRE index value using the methods specified in §63.115 of subpart G;

(ii) Conduct initial performance test to determine the emission rate, ER_{TOC}, for each process vent complying with §63.505(b)(2)(i)(A), (b)(2)(ii), (b)(3)(i), (b)(3)(ii), and (c)(2)(i)(A) using the procedures specified in §63.511(d); and

(iii) Monitor the operating parameters, keep records, and submit reports as specified in §63.114, §63.117(a), and §63.118(b), (f), and (g) of subpart G, as appropriate for the specific recovery device, and as required by §63.505.

(3) The affected source shall implement the following procedures for each storage vessel controlled with an internal floating roof, external roof, or a closed vent system with a control device, as appropriate to the control technique:

(i) Perform the monitoring or inspection procedures as specified in §63.120 of subpart G and as required by §63.504,

(ii) Perform the reporting and recordkeeping procedures as specified in §§63.122 and 63.123 of subpart G and as required by §63.504, and

(iii) For closed vent systems with control devices, conduct an initial design evaluation and submit an operating plan as specified in §63.120(d) and §63.122(a)(2) and (b) of subpart G and as required by §63.504.

(4) Reserved.

(5) The affected source shall implement the following procedures for wastewater emission points including PET vacuum system wastewater streams, as appropriate to the control techniques:

(i) For wastewater treatment processes, conduct tests as specified in §63.138(i) and (j) of subpart G and as required by §63.508,

(ii) Conduct inspections and monitoring as specified in §63.143 of subpart G and as required by §63.508,

(iii) A recordkeeping program as specified in §63.147 of subpart G and as required by §63.508, and

(iv) A reporting program as specified in §63.146 of subpart G and as required by §63.508.

(6) If an emission point in an emissions average is controlled using a pollution prevention measure or a device or technique for which no monitoring parameters or inspection procedures are required by §§63.504, 63.505, 63.507-2, or 63.508, the owner or operator shall submit the

information specified in §63.513(d) in the Emissions Averaging Plan or operating permit application.

(n) Records of all information required to calculate emission debits and credits shall be retained for five years.

(o) Initial Notifications, Implementation Plans, Emission Averaging Plans, Notifications of Compliance Status, Periodic Reports, and other reports shall be submitted as required by §63.513.

§63.511 Additional test methods and procedures.

Testing shall be conducted in accordance with §63.7(a)(3), (d), (e), (g), and (h) of subpart A, with the exceptions and additions noted in paragraphs (a) through (g) of this section. Sections 63.504 through 63.508 also contain specific testing requirements.

(a) Performance tests shall be conducted according to the provisions of §63.7(e) of subpart A, except that:

(1) Performance tests shall be conducted at maximum representative operating conditions for the process, and

(2) Performance tests for batch process vents shall be conducted for the duration of all controlled batch emission episodes, as required in §63.506-4(c).

(b) References in §63.7(g) to the Notification of Compliance Status requirements in §63.7(h) of subpart A shall refer to the requirements in §63.513(b)(5).

(c) Since the site-specific test plans in §63.7(c)(3) of subpart A are not required, §63.7(h)(4)(ii) is not applicable.

(d) Each owner or operator shall use Equation 68 to determine compliance with the mass emission per mass product standards in §63.505(b)(2)(i)(A), (b)(2)(ii), (b)(3)(i), (b)(3)(ii), and (c)(2)(i)(A) and to determine whether existing material recovery process sections at PET facilities using a DMT continuous process are subject to §63.505(b)(2)(i).

$$ER_{TOC} = \sum_{i=1}^{n} \frac{E_{iTOC}}{(0.001\ P_p)} \qquad \text{[Eq. 68]}$$

where:

ER_{TOC} = Emission rate of total organic compounds (minus methane and ethane), kg TOC/Mg product.

E_{iTOC} = Emission rate of total organic compounds (minus methane and ethane) in continuous process vent i, kg/hr.

P_p = The rate of polymer produced, kg/hr.

0.001 = Conversion factor, kg to Mg.

(1) The mass rate of TOC for each continuous process vent, E_{iTOC}, shall be determined according to the procedures

specified in §63.116(c)(4) of subpart H. The sampling site for determining whether §63.505(b)(2)(i) is applicable shall be before any add-on control devices and after all product recovery devices. Otherwise, the sampling site shall be at the outlet of the control device.

(2) The rate of polymer produced, P_p (kg/hr), shall be determined by dividing the weight of polymer pulled in kilograms from the process line during the performance test by the number of hours taken to perform the performance test. The polymer pulled, in kilograms, shall be determined by direct measurement or, subject to prior approval by the Administrator, computed from materials balance by good engineering practice.

(e) Each owner or operator shall determine continuous compliance with the temperature requirements in §63.505(b)(2)(i)(B) and (c)(2)(i)(B) by using a temperature monitoring device to measure and record continuously the operating temperature to within 1 percent (relative to degrees Celsius) or to $\pm 0.5\ ^{o}C$ ($\pm 0.9\ ^{o}F$), whichever is greater. An average temperature shall be determined from measurements taken at least every 15 minutes every three hours while the vent stream is normally routed and constituted. Each three-hour period constitutes a performance test.

(f) Each owner or operator of an affected source complying with §63.505(d) shall determine compliance with the mass emission per mass product standard by using Equation 69.

$$ER_{MBS} = \frac{\sum_{i=1}^{N} E_i}{PP_M} \qquad \text{[Eq. 69]}$$

Where:

ER_{MBS} = Emission rate of organic HAP (or TOC) from continuous process vents, kg organic HAP (or TOC) per Mg of product.

E_i = Emission rate of organic HAP (or TOC) from continuous process vent i as calculated using the procedures specified in §63.116(c)(4).

PP_M = Amount of polymer produced in one month (Mg/month) as determined by direct measurement or, subject to approval by the Administrator, computed from materials balance by good engineering practice.

n = Number of continuous process vents.

(g) The owner or operator of an affected source complying with §63.505(e) shall determine compliance with the percent reduction standard using Equation 70.

$$Percent\ reduction = \frac{[H_j \sum_{j=1}^{n} (E_i - E_o)_j] + \sum_{k=1}^{n} H_k E_{ku} + AE_{unc}}{(H_j \sum_{j=1}^{n} E_i) + \sum_{j=1}^{n} H_k E_{ku} + AE_{unc}} \times 100 \quad \text{[Eq. 70]}$$

Where:

H_j = Number of operating hours in a year for control device j.

E_i = Mass rate of TOC (or total organic HAP) at the inlet of control device j, as calculated under §63.116(c)(4), kilograms TOC (or organic HAP) per hour.

E_o = Mass rate of TOC (or total organic HAP) at the outlet of control device j, as calculated under §63.116(c)(4), kg TOC (or organic HAP) per hour.

H_k = Number of hours of operation during which positive flow is present in uncontrolled process vent k, hours per year.

E_{ku} = Mass rate of TOC (or total organic HAP) of uncontrolled process vent k, as calculated under §63.116(c)(4), kg TOC (or organic HAP) per hour.

AE_{unc} = Mass rate of TOC (or total organic HAP) of uncontrolled batch process vents, as calculated under §63.506-2(b), kg TOC (or organic HAP) per year.

n = Number of control devices and uncontrolled continuous process vents. The value of n is not necessarily the same for control devices and uncontrolled continuous process vents.

§63.512 Parameter monitoring levels and excursions.

(a) Establishment of parameter monitoring levels. For each parameter or parameters required to be monitored, under this subpart, for a control or recovery device, the owner or operator shall establish a maximum or minimum level for the measured parameter to ensure that the control or recovery device is being applied, operated, and maintained properly.

(1) The owner or operator shall operate control and recovery devices above the minimum established level or below the maximum established level to ensure continued compliance with the standard.

(2) As specified in §63.513(b)(5)(ii), all established levels, along with their supporting documentation, and the definition of an operating day shall be approved as part of and incorporated into the affected source’s Notification of Compliance Status or operating permit, as appropriate.

(3) Nothing in this section shall be construed to allow a monitoring parameter excursion caused by an activity that violates other applicable provisions of subpart A, F, or G of this part.

(b) The procedures specified in paragraphs (b)(1) and (b)(2) of this section shall be used, as applicable, in establishing the parameter monitoring levels.

(1) If a performance test is required by this subpart for a control or recovery device for a process vent, the parameter monitoring level shall be based on the parameter values measured during the performance test as follows:

(i) <u>Storage tanks and wastewater</u>. For control or recovery devices for emissions from storage tanks and wastewater, the maximum or minimum level shall be based on the parameter values measured during the performance test, supplemented by s and manufacturer's recommendations.

(ii) Continuous Process vents. For control or recovery devices for continuous process vents, during initial compliance testing, the appropriate parameter shall be continuously monitored during the required one-hour runs. The level shall then be established as the average of the maximum (or minimum) point values from the three test runs.

(iii) Batch process vents. For control or recovery control or recovery devices for batch process vents, the level shall be established using the procedures specified in paragraphs (b)(1)(iii)(A) through (b)(1)(iii)(C) of this section, as appropriate.

(A) A single level for the batch cycle shall be calculated as follows:

(1) During initial compliance testing, the appropriate parameter shall be monitored continuously at all times when batch emission episodes are vented to the control or recovery device.

(2) The average monitored parameter value shall be calculated for each of the batch emission episodes in the batch cycle.

(3) If the level to be established is a maximum operating parameter, the level shall be defined as the minimum of the average parameter values of the batch emission episodes in the batch cycle.

(4) If the level to be established is a minimum operating parameter, the level shall be defined as the maximum of the average parameter values of the batch emission episodes in the batch cycle.

(B) Instead of establishing a single level for the batch cycle, as required in paragraph (b)(1)(iii)(A) of this section, an owner or operator may establish separate levels for each controlled batch emission episode. The owner or operator shall develop a monitoring, recordkeeping, and reporting plan to demonstrate that the requirements of this section are met. This plan shall be submitted in accordance with §63.513(d).

(C) For aggregate batch process vents, the level shall be established in accordance with §63.512(b)(1)(ii).

(2) If a performance test is not required by this subpart for a control or recovery device, the maximum or minimum level may be based solely on s and manufacturer's recommendations.

(c) Compliance determinations. The provisions of this paragraph apply only to emission points and control or recovery devices for which continuous monitoring is required under this subpart.

(1) The parameter monitoring data for storage vessels, process vents, process contact cooling towers, process wastewater streams, and emission points included in emissions averages that are required to perform continuous

monitoring shall be used to determine compliance with the required operating conditions for the monitored control or recovery devices.

(2) Except as provided in paragraph (c)(3) of this section, for each excursion, as defined in paragraph (d) of this section, the owner or operator shall be deemed out of compliance with the provisions of this subpart.

(3) If the daily average value of a monitored parameter is above the maximum level or below the minimum level established or monitoring data are not collected during start-up, shutdown, or malfunction, and the affected source is operated during periods of start-up, shut down, or malfunction in accordance with the affected source's start-up, shutdown, and malfunction plan as required by §63.6(e)(3) of subpart A, then the event shall not be considered a monitoring parameter excursion.

(d) <u>Parameter monitoring excursion definitions</u>.

(1) For storage vessels, continuous process vents, aggregate batch process vent streams, and wastewater streams, an excursion means any of the three cases listed in paragraphs (d)(1)(i) through (d)(1)(iii) of this section. For a control or recovery device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in paragraphs (d)(1)(i) through (d)(1)(iii) of this section, this is considered an excursion for the control or recovery device .

(i) When the daily average value of one or more monitored parameters is above the maximum level or below the minimum level established for the given parameters.

(ii) When the period of control or recovery device operation is 4 hours or greater in an operating day and monitoring data are insufficient, as defined in paragraph (d)(1)(iv) of this section, to constitute a valid hour of data for at least 75 percent of the operating hours.

(iii) When the period of control or recovery device operation is less than 4 hours in an operating day and more than two of the hours during the period of operation do not constitute a valid hour of data due to insufficient monitoring data, as defined in paragraph (d)(1)(iv) of this section.

(iv) Monitoring data are insufficient to constitute a valid hour of data, as used in paragraphs (d)(1)(ii) and (d)(1)(iii) of this section, if measured values are unavailable for any of the 15-minute periods within the hour. For data compression systems approved under §63.513(e)(4), monitoring data are insufficient to calculate a valid hour of data if there are less than 4 data values recorded during the hour.

(2) For batch process vents, an excursion means one of the two cases listed in paragraphs (d)(2)(i) and (d)(2)(ii) of this section. For a control or recovery device where multiple parameters are monitored, if one or more of the

parameters meets the excursion criteria in either paragraph (d)(2)(i) or (d)(2)(ii) of this section, this is considered an excursion for the control or recovery control or recovery device.

(i) When the batch cycle daily average value of one or more monitored parameters is above the maximum level or below the minimum level established level for the given parameter.

(ii) When monitoring data are insufficient. Monitoring data shall be considered insufficient when measured values are not available for at least 75 percent of the 15-minute periods when batch emission episodes are being vented to the control or recovery device during the operating day.

§63.513 General reporting and recordkeeping provisions.

(a) Subpart A requirements. Table 6 of this subpart specifies the provisions of 40 CFR part 63, subpart A that apply and those that do not apply to owners and operators of sources subject to this subpart. Additions, replacements, and clarifications to the 40 CFR part 63, subpart A requirements are contained in this section.

(b) Reporting and notification. Each owner or operator of a source subject to this subpart shall prepare and submit the reports listed in paragraphs (b)(1) through (b)(8) of this section. Owners or operators requesting an extension of compliance shall comply with §63.6(i) and §63.9(c) of subpart A.

(1) Initial Notification. For all affected sources, a written Initial Notification to the Administrator, containing the information described in paragraph (b)(1)(i) of this section, according to the schedule in paragraph (b)(1)(ii) of this section. The Initial Notification provisions in §63.9(b)(2), (b)(3), and (b)(6) of subpart A shall not apply to owners or operators of sources subject to this subpart.

(i) The Initial Notification shall contain the following information:

(A) The name and address of the owner or operator;

(B) The address (physical location) of the affected source;

(C) An identification of the kinds of emission points within the thermoplastic product process units that are subject to this subpart;

(D) An identification of the thermoplastic product process units, as listed in §63.500(a)(1), subject to this subpart; and

(E) A statement of whether the affected source can achieve compliance by the relevant compliance date specified in §63.501.

(ii) The Initial Notification shall be submitted according to the schedule in paragraph (b)(1)(ii)(A), (b)(1)(ii)(B), or (b)(1)(ii)(C) of this section, as applicable.

(A) For an existing source, the Initial Notification shall be submitted within 120 operating days after [**insert promulgation date**].

(B) For a new source that has an initial start-up 90 operating days after [**insert promulgation date**] or later, the application for approval of construction or reconstruction required by §63.5(d) of subpart A shall be submitted in lieu of the Initial Notification. The application shall be submitted as soon as practicable before construction or reconstruction is planned to commence (but it need not be sooner than 90 operating days after [**insert promulgation date**]).

(C) For a new source that has an initial start-up prior to 90 operating days after [**insert promulgation date**], the Initial Notification shall be submitted within 90 operating days after [**insert promulgation date**]. The application for approval of construction or reconstruction described in §63.5(d) of subpart A is not required for these affected sources.

(2) <u>Application for approval of construction or reconstruction.</u> For new sources, each owner or operator of an affected new source shall comply with the provisions in §63.5 of subpart A regarding construction and

reconstruction, with the exceptions noted in paragraphs (b)(2)(i) and (b)(2)(ii) of this section.

(i) The information specified in §63.5(d)(1)(ii)(H), (d)(2), and (d)(3)(ii) of subpart A is not required in the application for approval of construction or reconstruction.

(ii) The owner or operator shall submit the information specified in paragraph (b)(3) of this section, with the exception of the information required in (b)(3)(ii)(A)(3), with the application for approval of construction or reconstruction.

(3) Implementation Plan. For all affected sources, an Implementation Plan according to the schedule described in paragraph (b)(3)(i) of this section, and containing the information specified in paragraph (b)(3)(ii) of this section, unless the information required in paragraph (b)(3)(ii) is submitted with an operating permit application or the application for approval of construction or reconstruction. In addition, a supplement to the Implementation Plan, as required under paragraph (b)(3)(iii) of this section, is to be submitted whenever alternative controls are used to comply with this subpart. Updates and addendums to the Implementation Plan shall be submitted in accordance with paragraph (b)(3)(iv) of this section.

(i) Submittal dates. For existing sources, an Implementation Plan shall be submitted to the Administrator no later than 12 months prior to the compliance date. For new sources, this Implementation Plan shall be submitted to the Administrator with the application for approval of construction or reconstruction required in paragraph (b)(2) of this section.

(ii) Information required. The Implementation Plan shall contain the information listed in paragraphs (b)(3)(ii)(A) and (b)(3)(ii)(B) of this section.

(A) A list designating each storage vessel, continuous process vent, batch process vent, heat exchange system, process contact cooling tower, and process wastewater stream subject to this subpart, with the following information for each point.

(1) Whether each storage vessel, continuous process vent, batch process vent, and process wastewater stream is Group 1 or Group 2, as defined in §63.502, where a group determination is required to be made.

(2) Reserved.

(3) Whether each storage vessel, continuous process vent, process contact cooling tower, and process wastewater stream is to comply with the requirements of §§63.504, 63.505, 63.507-2, and 63.508, or is to be included in an emissions average in accordance with §63.510.

(B) For each emission point complying with the provisions of §§63.504 through 63.508:

(1) For process wastewater, the information specified in Table 14a of subpart G of this part for wastewater

streams at new sources and in Table 14b of subpart G of this part for wastewater streams at new and existing sources;

(2) The control technology or method of compliance that will be applied to:

(A) Each Group 1 storage vessel, continuous process vent, batch process vent, and process wastewater stream;

(B) Continuous process vents at existing PET sources using a continuous process complying with §63.505(b)(2)(i), (b)(2)(ii), (b)(3)(i), or (b)(3)(ii);

(C) Continuous process vents at existing polystyrene sources using a continuous process complying with §63.505(c)(2);

(D) Continuous process vents at existing MBS sources complying with §63.505(d); and

(E) Continuous and batch process vents at new SAN sources complying with §63.505(e).

(3) For each contact process cooling tower not complying with the emission averaging provisions under §63.510, a statement that cooling tower water will not be used in contact condensers associated with vacuum systems at affected sources producing PET using any of the processes listed in §63.500(a)(1)(i) through (a)(1)(iv);

(4) A statement that the compliance demonstration, monitoring, inspection, recordkeeping, and reporting provisions in §§63.504 through 63.508 that are applicable to

each emission point will be implemented beginning on the date of compliance;

(5) The operating plan required by §63.504, as specified in §63.122(a)(2) and (b) of subpart G, for each storage vessel controlled with a closed vent system with a control device other than a flare; and

(6) The monitoring information in paragraph (d) of this section if, for any emission point, the owner or operator of an affected source seeks to comply through use of a control technique other than those for which monitoring parameters are specified in this subpart or in subpart G of this part.

(iii) Alternative controls supplement. The owner or operator required to prepare an Implementation Plan under paragraph (b)(3) of this section shall also prepare a supplement to the Implementation Plan for any alternative controls that may be used to achieve compliance. Alternative controls must be shown to be equivalent to the controls required by the standards per the provisions in §63.6(g) of subpart A.

(iv) Updates to Implementation Plan. The owner or operator of an affected source required to submit an Implementation Plan under paragraph (b)(3) of this section shall also submit written updates or addendums to the Implementation Plan to the Administrator under the circumstances described in paragraphs (b)(3)(iv)(A) through (b)(3)(iv)(C) of this section unless the relevant information has been included and submitted in an operating permit application or amendment. The information shall be submitted within 180 operating days after the change is made or the information regarding the change is known to the affected source. The update or addendum may be submitted in the next Periodic Report if the change is made after the date the Notification of Compliance Status is due.

(A) Whenever a process change is made such that the group status of any emission point changes or, at an existing PET source using a continuous DMT process, a material recovery section becomes subject to the control requirements under §63.505(b)(2)(i). The information submitted shall include a compliance schedule, as specified in paragraphs (b)(3)(iv)(A)(1) and (b)(3)(iv)(A)(2) of this section, for emission points that change from Group 2 to Group 1 and, for existing PET sources using a continuous process, the continuous process vents from the material recovery section that becomes subject to the control requirements of §63.505(b)(2)(i).

(1) The owner or operator shall submit to the Administrator for approval a compliance schedule, along with a justification for the schedule.

(2) The Administrator shall approve the compliance schedule or request changes within 120 operating days of receipt of the compliance schedule and justification.

(B) Whenever an owner or operator elects to achieve compliance with this subpart by using a control technique other than that specified in the Implementation Plan or plans to monitor a different parameter or operate a control device in a manner other than that specified in the Implementation Plan.

(C) Whenever one or more of the emission points listed in paragraphs (b)(3)(iv)(C)(1) through (b)(3)(iv)(C)(6) of this section or one or more thermoplastic product process units is added to an affected source, a written addendum containing information in paragraph (b)(3) of this section on the new emission point or thermoplastic product process unit shall be submitted.

(1) Continuous process vent,

(2) Batch process vent,

(3) Storage vessel,

(4) Wastewater stream,

(5) Heat exchange system, or

(6) Process contact cooling tower.

(4) Emissions Averaging Plan. For all existing sources complying using emissions averaging, an Emissions Averaging Plan for approval according to the schedule and procedures described in paragraph (b)(4)(i) of this section, and containing the information specified in paragraph (b)(4)(ii) of this section, unless the information required in paragraph (b)(4)(ii) of this section is submitted with an

operating permit application. In addition, a supplement to the Emissions Averaging Plan, as required under paragraph (b)(4)(iii) of this section, is to be submitted whenever alternative controls are used to comply with this subpart. Updates to the Emissions Averaging Plan shall be submitted in accordance with paragraph (b)(4)(iv) of this section.

(i) Submittal and approval. The Emissions Averaging Plan shall be submitted no later than 18 months prior to the compliance date, and is subject to Administrator approval. The Administrator shall determine within 120 operating days whether the Emissions Averaging Plan submitted by affected sources presents sufficient information. The Administrator shall either approve the Emissions Averaging Plan, request changes, or request that the owner or operator submit additional information. Once the Administrator receives sufficient information, the Administrator shall approve, disapprove, or request changes to the plan within 120 operating days.

(ii) Information required. The Emissions Averaging Plan shall contain the information listed in paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(I) of this section for all emission points included in the emissions average.

(A) The identification of all emission points in the planned emissions average and, where applicable, notation of whether each storage vessel, continuous process vent, and process wastewater stream is a Group 1 or Group 2 emission point either as defined in §63.502 or as designated under §63.510(c)(2), (c)(4), or (c)(5).

(B) The projected emission debits and credits for each emission point and the sum for the emission points involved in the average calculated according to §63.510. The projected credits must be greater than or equal to the projected debits, as required under §63.510(e)(3).

(C) The specific control technology or pollution prevention measure that will be used for each emission point included in the average and date of application or expected date of application.

(D) The specific identification of each emission point affected by a pollution prevention measure. To be considered a pollution prevention measure, the criteria in §63.510(j)(1) must be met. If the same pollution prevention measure reduces or eliminates emissions from multiple emission points in the average, the owner or operator must identify each of these emission points.

(E) A statement that the compliance demonstration, monitoring, inspection, recordkeeping, and reporting provisions in §63.510(m), (n), and (o) that are applicable to each emission point in the emissions average will be implemented beginning on or before the date of compliance.

(F) Documentation of the information listed in paragraph (b)(4)(ii)(F)(1) through (b)(4)(ii)(F)(5) of this section for each storage vessel, continuous process vent, and process contact cooling tower included in the average.

(1) The values of the parameters used to determine whether the emission point is Group 1 or Group 2. Where TRE index value is used for continuous process vent group determination, the estimated or measured values of the parameters used in the TRE equation in §63.115(d) of subpart G and the resulting TRE index value shall be submitted.

(2) The estimated values of all parameters needed for input to the emission debit and credit calculations in §63.510(g) and (h). These parameter values shall be specified in the affected source’s Emissions Averaging Plan (or operating permit) as enforceable operating conditions. Changes to these parameters must be reported as required by paragraph (i)(2)(ii) of this section.

(3) The estimated percent reduction of a control technology achieving a lower percent reduction than the efficiency of the applicable reference control technology or standard, is or will be applied to the emission point.

(4) The anticipated nominal efficiency if a control technology achieving a greater percent emission reduction than the efficiency of the reference control technology is or will be applied to the emission point. The procedures in §63.510(i) shall be followed to apply for a nominal efficiency.

(5) The operating plan required by §63.504, as specified in §63.122(a)(2) and (b) of subpart G for each storage vessel controlled with a closed-vent system with a control device other than a flare.

(G) The information specified in paragraph (d) of this section shall be included in the Emissions Averaging for:

(1) Each continuous process vent controlled by a pollution prevention measure or control technique for which monitoring parameters or inspection procedures are not specified in §63.114 of subpart G, and

(2) Each storage vessel controlled by pollution prevention or a control technique other than an internal or external floating roof or a closed vent system with a control device.

(H) Documentation of the information listed in paragraph (b)(4)(ii)(H)(1) through (b)(4)(ii)(H)(4) for each process wastewater stream included in the average.

(1) The information used to determine whether the wastewater stream is a Group 1 or Group 2 wastewater stream and the information specified in Table 14b of subpart G of this part for wastewater streams at new and existing sources.

(2) The estimated values of all parameters needed for input to the wastewater emission credit and debit calculations in §63.510(g)(5) and (h)(5). These parameter values shall be specified in the affected source’s Emissions

Averaging Plan (or operating permit) as enforceable operating conditions. Changes to these parameters must be reported as required by paragraph (i)(2)(ii) of this section.

(3) The estimated percent reduction if:

(A) A control technology that achieves an emission reduction less than or equal to the emission reduction that would otherwise have been achieved by a steam stripper designed to the specifications found in §63.138(g) of subpart G is or will be applied to the wastewater stream, or

(B) A control technology achieving less than or equal to 95 percent emission reduction is or will be applied to the vapor stream(s) vented and collected from the treatment processes, or

(C) A pollution prevention measure is or will be applied.

(4) The anticipated nominal efficiency if the owner or operator plans to apply for a nominal efficiency under §63.510(i). A nominal efficiency shall be applied for if:

(A) A control technology that achieves an emission reduction greater than the emission reduction that would have been achieved by a steam stripper designed to the specifications found in §63.138(g) of subpart G, is or will be applied to the wastewater stream, or

(B) A control technology achieving greater than 95 percent emission reduction is or will be applied to the vapor stream(s) vented and collected from the treatment processes.

(5) For each pollution prevention measure, treatment process, or control device used to reduce air emissions of organic HAP from wastewater and for which no monitoring parameters or inspection procedures are specified in §63.143 of subpart G, the information specified in paragraph (d) of this section shall be included in the Emissions Averaging Plan.

(I) Documentation of the information required by §63.510(k). The documentation must demonstrate that the emissions from the emission points proposed to be included in the average will not result in greater hazard or at the option of the Administrator, greater risk to human health or the environment than if the emission points were not included in an emissions average.

(iii) The owner or operator required to prepare an Emissions Averaging Plan under paragraph (b)(4) of this section shall also prepare a supplement to the Emissions Averaging Plan for any alternative controls or operating scenarios that may be used to achieve compliance.

(iv) Updates to Emissions Averaging Plan. The owner or operator of an affected source required to submit an Emissions Averaging Plan under paragraph (b)(4) of this section shall also submit written updates of the Emissions Averaging Plan to the Administrator for approval under the circumstances described in paragraphs (b)(4)(iv)(A) and (b)(4)(iv)(B) of this section unless the relevant information has been included and submitted in an operating permit application or amendment.

(A) The owner or operator who plans to make a change listed in either paragraph (b)(4)(iv)(A)(1) or (b)(4)(iv)(A)(2) of this section shall submit an Emissions Averaging Plan update at least 120 operating days prior to making the change.

(1) Whenever an owner or operator elects to achieve compliance with the emissions averaging provisions in §63.510 by using a control technique other than that specified in the Emissions Averaging Plan or plans to monitor a different parameter or operate a control device in a manner other than that specified in the Emissions Averaging Plan.

(2) Whenever an emission point or a thermoplastic product process unit is added to an existing source and is planned to be included in an emissions average, or whenever an emission point not included in the emissions average described in the Emissions Averaging Plan is to be added to an emissions average. The information in paragraph (b)(4) of this section shall be updated to include the additional emission point.

(B) The owner or operator who has made a change as defined in paragraphs (b)(4)(iv)(B)(1) or (b)(4)(iv)(B)(2) or (b)(4)(iv)(B)(3) of this section shall submit an Emissions Averaging Plan update within 90 operating days after the information regarding the change is known to the affected source. The update may be submitted in the next quarterly periodic report if the change is made after the date the Notification of Compliance Status is due.

(1) Whenever a process change is made such that the group status of any emission point in an emissions average changes.

(2) Whenever a value of a parameter in the emission credit or debit equations in §63.510(g) or (h) changes such that it is below the minimum or above the maximum established level specified in the Emissions Averaging Plan and causes a decrease in the projected credits or an increase in the projected debits.

(3) Whenever a process change is made such that a material recovery section at an existing PET source using a continuous process becomes subject to the control requirements of §63.505(b)(2)(i) and is included in the emissions average.

(C) The Administrator shall approve or request changes to the Emissions Averaging Plan update within 120 operating days of receipt of sufficient information regarding the change for emission points included in emissions averages.

(5) Notification of Compliance Status. For existing and new sources, a Notification of Compliance Status within

150 operating days after the compliance dates specified in §63.501. The notification shall contain the information listed in paragraphs (b)(5)(i) through (b)(5)(v) of this section.

(i) The results of any emission point group determinations, process section applicability determinations [as required under §63.505(b)(1)], performance tests, inspections, continuous monitoring system performance evaluations, values of monitored parameters established during performance tests, any other information used to demonstrate compliance, and any other information required to be included in the Notification of Compliance Status under §63.122 of subpart G for storage vessels, §63.117 of subpart G for continuous process vents, §63.506-6 for batch process vents, §63.146 of subpart G for process wastewater, and §63.510 for emission points included in an emissions average.

(A) For performance tests, group determinations, and process section applicability determinations that are based on measurements, the Notification of Compliance Status shall include one complete test report, as described in paragraph (b)(5)(i)(B) of this section, for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other required information is not required.

(B) A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(ii) For each monitored parameter for which a maximum or minimum level is required to be established under §63.120(d)(3) of subpart G for storage vessels, §63.114(e) of subpart G for continuous process vents, §63.506-3(e) for batch process vents, §63.143(f) of subpart G for process wastewater, §63.510(m) for emission points in emissions averages, paragraph (d) of this section, or paragraph (c) of this section, the information in paragraphs (b)(5)(ii)(A) through (b)(5)(ii)(D) of this section, unless this information has been established and provided in the operating permit.

(A) The specific maximum or minimum level of the monitored parameter(s) for each emission point;

(B) The rationale for the specific maximum or minimum level for each parameter for each emission point, including any data and calculations used to develop the level and a description of why the level indicates proper operation of the control device.

(C) A definition of the affected source's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends. The operating day shall not exceed 24 hours.

(D) A definition of each batch cycle that requires the control of one or more batch emission episodes during the cycle for the purpose of determining average values of monitored parameters for the batch cycle.

(iii) For Group 2 batch process vents with annual HAP emissions greater than or equal to levels specified in §63.506-2(d), the batch cycle limitation and supporting documentation, as required in §63.506-6(a)(2).

(iv) For Group 2 batch process vents with annual HAP emissions less than the levels specified in §63.506-2(d), the batch cycle limitation and supporting documentation, as required in §63.506-6(a)(3).

(v) For emission points included in an emissions average, the values of all parameters needed for input to the emission credit and debit equations in §63.510(g) and (h), calculated or measured according to the procedures in §63.510(g) and (h), and the resulting calculation of credits and debits for the first quarter of the year. The first quarter begins on the compliance date specified.

(6) Periodic Reports. For existing and new sources, each owner or operator of an affected source subject to this subpart shall submit Periodic Reports as specified in paragraphs (b)(6)(i) through (b)(6)(vi) of this section.

(i) Except as specified under paragraphs (b)(6)(v) and (b)(6)(vi) of this section, a report containing the information in paragraphs (b)(6)(ii) through (b)(6)(iv) of this section shall be submitted semiannually no later than 60 operating days after the end of each 6-month period. The first report shall be submitted no later than 8 months after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

(ii) For an owner or operator of a source complying with the provisions of §§63.504 through 63.508 for any emission point or process section, periodic reports shall include:

(A) All information specified in §63.122 of subpart G for storage vessels, §§63.117 and 63.118 of subpart G for continuous process vents, §63.506-6 for batch process vents, §63.104 of subpart G for heat exchange systems and §63.146 of subpart G for process wastewater, including reports of periods when monitored parameters are above or below their established maximum or minimum levels, as appropriate;

(B) The daily average, and batch cycle daily average, values of monitored parameters for all excursions, as defined in §63.512(c);

(C) For excursions caused by lack of monitoring data, the periods when monitoring data were not collected shall be specified; and

(D) The information in paragraphs (b)(6)(ii)(D)(1) through (b)(6)(ii)(D)(4) of this section, as applicable:

(1) For process vents, reports of process changes as required under §63.118(g), (h), (i), and (j) of subpart G for continuous process vents, and §63.506-6(b) and (c) for batch process vents,

(2) Any supplements to the Implementation Plan required under paragraph (b)(3) of this section, or Emissions Averaging Plan required in paragraph (b)(4) of this section,

(3) Notification if any Group 2 emission point becomes a Group 1 emission point, including a compliance schedule as required in paragraphs (b)(3)(iv)(A)(1) and (b)(3)(iv)(A)(2) of this section, and

(4) Notification if any existing material recovery section at an existing PET source using a continuous DMT process becomes subject to the control requirements specified in §63.505(b)(2)(i), including a compliance schedule as required in paragraphs (b)(3)(iv)(A)(1) and (b)(3)(iv)(A)(2) of this section.

(iii) For each batch process vent with a batch cycle limitation, every second Periodic Report shall include the number of batch cycles accomplished during the 12-month period represented by the Periodic Reports. The owner or operator shall be considered out of compliance for the entire 12-month period if the number of batch cycles accomplished are greater than the batch cycle limitation.

(iv) If any performance tests are reported in a Periodic Report, the following information shall be included:

(A) One complete test report shall be submitted for each test method used for a particular kind of emission point tested. A complete test report shall contain the information specified in paragraph (b)(5)(i)(B) of this section.

(B) For additional tests performed for the same kind of emission point using the same method, results and any other information required shall be submitted, but a complete test report is not required.

(v) The owner or operator of an affected source shall submit quarterly reports for all emission points included in an emissions average.

(A) The quarterly reports shall be submitted no later than 60 operating days after the end of each quarter. The first report shall be submitted with the Notification of

Compliance Status no later than 5 months after the compliance date.

(B) The quarterly reports shall include the following information for all emission points included in an emissions average.

(1) The credits and debits calculated each month during the quarter;

(2) A demonstration that debits calculated for the quarter are not more than 1.30 times the credits calculated for the quarter, as required under §63.510(e)(4).

(3) The values of any inputs to the debit and credit equations in §63.510(g) and (h) that change from month to month during the quarter or that have changed since the previous quarter;

(4) Results of any performance tests conducted during the reporting period including one complete report for each test method used for a particular kind of emission point as described in paragraph (b)(6)(iii) of this section;

(5) Reports of daily average values of monitored parameters for excursions as defined in §63.512(c);

(6) For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified; and

(7) Any other information the affected source is required to report under the operating permit or Emissions Averaging Plan for the affected source.

(C) §63.512 shall govern the use of monitoring data to determine compliance for Group 1 and Group 2 emission points included in emissions averages.

(D) Every fourth quarterly report shall include the following:

(1) A demonstration that annual credits are greater than or equal to annual debits as required by §63.510(e)(3); and

(2) A certification of compliance with all the emissions averaging provisions in §63.510.

(vi) The owner or operator of an affected source shall submit quarterly reports for particular emission points and process sections not included in an emissions average under the circumstances described in paragraph (b)(6)(vi)(A) of this section and shall contain the information specified in paragraph (b)(6)(vi)(B) of this section.

(A) The owner or operator of a source subject to this subpart shall submit quarterly reports for a period of one year for an emission point or process section that is not included in an emissions average if:

(1) The emission point has any excursions, as defined in §63.512(c)(ii)(B) for a semiannual reporting period;

(2) The process section is out of compliance with its applicable standard; and

(_3_) The Administrator requests the owner or operator to submit quarterly reports for the emission point or process section.

(B) The quarterly reports shall include all information in paragraphs (b)(6)(ii) through (b)(6)(iv) of this section applicable to the emission point(s) or process section for which quarterly reporting is required under paragraph (b)(6)(vi)(A) of this section. Information applicable to other emission points within the affected source shall be submitted in the semiannual reports required under paragraph (b)(6)(i) of this section.

(C) Quarterly reports shall be submitted no later than 60 operating days after the end of each quarter.

(D) After quarterly reports have been submitted for an emission point for one year, the owner or operator may return to semiannual reporting for the emission point (or process section) unless the Administrator requests the owner or operator to continue to submit quarterly reports.

(E) §63.512 shall govern the use of monitoring data to determine compliance for Group 1 emission points.

(7) _Start-ups, shutdowns, and malfunctions_.

(i) For all affected sources, a Start-up, Shutdown, and Malfunction Plan as requested by §63.6(e)(3) of subpart A. This plan shall include, among other things required, the information required under §63.508(b) related to maintenance wastewater.

(ii) Reports of start-up, shutdown, and malfunction required by §63.10(d)(5) of subpart A. The semi-annual start-up, shutdown and malfunction reports may be submitted on the same schedule as the periodic reports required under paragraph (b)(6) of this section instead of the schedule specified in §63.10(d)(5)(i) of subpart A.

(8) Other reports. Other reports shall be submitted as specified in paragraphs (8)(i) through (iii) of this section.

(i) For storage vessels, the notifications of inspections required by §63.504 as specified in §63.122(h)(1) and (h)(2) of subpart G.

(ii) For owners or operators of affected sources required to request approval for a nominal control efficiency for use in calculating credits for an emissions average, the information specified in §63.510(i).

(iii) For Group 2 batch process vent with a batch cycle limitation, owners or operators shall submit the number of batch cycles accomplished on a quarterly basis. Every fourth quarterly report shall include the total batch cycles accomplished during the previous 12 months, and a statement whether the owner or operator is in compliance with the batch cycle limitation.

(c) Operating Permit. An owner or operator who submits an operating permit application instead of an Implementation Plan or Emissions Averaging Plan shall submit the following information with the operating permit application:

(1) The information specified in paragraphs (d) or (e) of this section for any emission point for which the owner or operator requests approval to monitor a unique parameter or use an alternative monitoring and recording system.

(2) The information specified in paragraph (b)(3) of this section.

(3) The information specified in paragraph (b)(4) of this section for points included in an emissions average.

(4) The information specified in paragraph (b)(5) of this section as applicable.

(d) Alternative monitoring parameters. The owner or operator who has been directed by any section of this subpart to set unique monitoring parameters or who requests approval to monitor a different parameter than those listed in §63.114 of subpart G for continuous process vents, §63.506-3 for batch process vents, or §63.143 of subpart G for process wastewater shall submit the information specified in paragraphs (d)(1) through (d)(3) of this section with the Implementation Plan required in paragraph (b)(3) of this section, or the Emissions Averaging Plan required in paragraph (b)(4) of this section.

(1) A description of the parameter(s) to be monitored to ensure the control technology or pollution prevention measure is operated in conformance with its design and

achieves the specified emission limit, percent reduction, or nominal efficiency, and an explanation of the criteria used to select the parameter(s).

(2) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device, the schedule for this demonstration, and a statement that the owner or operator will establish a level for the monitored parameter as part of the Notification of Compliance Status report required in paragraph (l) of this section, unless this information has already been included in the operating permit application.

(3) The frequency and content of monitoring, recordkeeping, and reporting. Further, the rationale for the proposed monitoring, recordkeeping, and reporting system shall be included if either condition in paragraph (d)(3)(i) or (d)(3)(ii) of this section are met.

(i) If monitoring and recordkeeping is not continuous, or

(ii) If reports of daily average values will not be included in Periodic Reports when the monitored parameter value is above the maximum level or below the minimum level as established in the operating permit or the Notification of Compliance Status.

(e) <u>Alternative continuous monitoring and recordkeeping</u>. An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in §§63.114, 63.117, and 63.118 of subpart G for continuous process vents, §§63.506-3 and 63.506-5 for batch process vents, and §§63.143, 63.146, and 63.147 of subpart G for wastewater.

(1) Requests shall be submitted in the Implementation Plan or Emissions Averaging Plan, if not already included in the operating permit application, and shall contain the information specified in paragraphs (e)(3)(ii) and (e)(4)(ii) of this section, as applicable.

(2) The provisions in §63.8(f)(5)(i) of subpart A shall govern the review and approval of requests.

(3) An owner or operator of an affected source that does not have an automated monitoring and recording system capable of measuring parameter values at least once every 15 minutes and generating continuous records may request approval to use a non-automated system with less frequent monitoring in accordance with paragraphs (e)(3)(i) and (e)(3)(ii) of this section.

(i) The requested system shall include manual reading and recording of the value of the relevant operating parameter no less frequently than once per hour. Daily average values shall be calculated from these hourly values and recorded.

(ii) The request shall contain:

(A) A description of the planned monitoring and recordkeeping system;

(B) Documentation that the affected source does not have an automated monitoring and recording system;

(C) Justification for requesting an alternative monitoring and recordkeeping system; and

(D) Demonstration to the Administrator's satisfaction that the proposed monitoring frequency is sufficient to represent control device operating conditions considering typical variability of the specific process and control device operating parameter being monitored.

(4) An owner or operator may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example once every 15 minutes) but records all values that meet set criteria for variation from previously recorded values in accordance with paragraphs (e)(4)(i) and (e)(4)(ii) of this section.

(i) The requested system shall be designed to:

(A) Measure the operating parameter value at least once every 15 minutes.

(B) Record at least four values each hour during periods of operation.

(C) Record the date and time when monitors are turned off or on.

(D) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident.

(E) Compute daily average values of the monitored operating parameter based on recorded data.

(F) If the daily average is not an excursion, as defined in §63.512(c)(ii)(B), the data for that operating day may be converted to hourly average values and the four or more individual records for each hour in the operating day may be discarded.

(ii) The request shall contain:

(A) A description of the monitoring system and data compression recording system, including the criteria used to determine which monitored values are recorded and retained,

(B) The method for calculating daily averages, and

(C) A demonstration that the system meets all criteria in paragraph (e)(4)(i) of this section.

(5) An owner or operator may request approval to use other alternative monitoring systems according to the procedures specified in §63.8(f) of subpart A.

(f) Recordkeeping. Owners or operators required to keep continuous records shall keep records as specified in paragraphs (f)(1) through (f)(7) of this section, unless an alternative recordkeeping system has been requested and approved under paragraph (c), (d), or (e) of this section, or under §63.8(f) of subpart A.

(1) The monitoring system shall measure data values at least once every 15 minutes.

(2) The owner or operator shall record either:

(i) Each measured data value; or

(ii) Block average values for 15-minute or shorter periods calculated from all measured data values during each period.

(3) If the daily average (or batch cycle daily average) value of a monitored parameter for a given operating day is above the minimum level or below the maximum level established in the Notification of Compliance Status or operating permit, the owner or operator shall either:

(i) Retain block hourly average values for that operating day for 5 years and discard, at or after the end of that operating day, the 15-minute or more frequent average values and readings recorded under paragraph (f)(2) of this section; or

(ii) Retain individual batch cycle average parameter values for that operating day for 5 years and discard, at or after the end of the operating day in which the batch cycle(s) occurred, the 15-minute or more frequent average values and readings recorded under paragraph (f)(2) of this section; or

(iii) Retain the data recorded in paragraph (f)(2) of this section for 5 years.

(4) If the daily average (or batch cycle daily average) value of a monitored parameter for a given operating day is below the minimum level or above the maximum level established in the Notification of Compliance Status or operating permit, the owner or operator shall retain the data recorded that operating day under paragraph (f)(2) of this section for 5 years.

(5) Daily average (or batch cycle daily average) values of each continuously monitored parameter shall be calculated for each operating day, and retained for 5 years, except as specified in paragraph (f)(6) of this section.

(i) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day, and the batch cycle daily average shall be calculated as the average of all individual batch cycle parameter value averages recorded during the operating day. The calculated average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous.

(ii) The operating day shall be the period defined in the operating permit or the Notification of Compliance Status. It may be from midnight to midnight or another daily period.

(iii) The batch cycle shall be defined in the operating permit or the Notification of Compliance Status.

(6) If all recorded values for a monitored parameter during an operating day are above the minimum level or below the maximum level established in the Notification of Compliance Status or operating permit, the owner or operator may record that all values were above the minimum level or below the maximum level and retain this record for 5 years rather than calculating and recording a daily average (or batch cycle daily average) for that operating day. For these operating days, the records required in paragraph (f)(3) of this section shall also be retained for 5 years.

(7) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating.

TABLE 1. GROUP 1 STORAGE VESSELS AT EXISTING SOURCES

Vessel Capacity (cubic meters)	Vapor Pressure[a] (kilopascals)
75 $\leq$ capacity < 151	$\geq$ 13.1
151 $\leq$ capacity	$\geq$ 5.2

[a]Maximum true vapor pressure of total organic HAP at storage temperature.

TABLE 1a. GROUP 1 STORAGE VESSELS AT EXISTING SOURCES PRODUCING RESINS SPECIFICALLY LISTED IN §63.504(c)

Resin	Vessel Capacity (cubic meters)	Vapor Pressure[a,b] (kilopascals)
ASA/AMSAN[b,c]	$\geq$ 38.6	alpha methyl styrene[d]
	$\geq$ 3.78	styrene/acrylonitrile mixture[d]
	$\geq$ 75.7	acrylonitrile[d]
Polystyrene, continuous processes[e]	$\geq$38 and <75.7	$\geq$14.2
	$\geq$75.7	$\geq$1.9
Nitrile[c,f]	$\geq$ 13.25	acrylonitrile

[a]Maximum true vapor pressure of total organic HAP at storage temperature.
[b]As listed in §63.500(a)(1)(xv).
[c]The applicability criteria in Table 1 shall be used for chemicals not specifically listed in this table (Table 1a).
[d]Designated chemical in lieu of vapor pressure.
[e]As listed in §63.500(a)(1)(v).
[f]As listed in §63.500(a)(1)(xviii).

TABLE 2. GROUP 1 STORAGE VESSELS AT NEW SOURCES

Vessel Capacity (cubic meters)	Vapor Pressure[a] (kilopascals)
$38 \leq$ capacity < 151	≥ 13.1
$151 \leq$ capacity	≥ 0.7

[a]Maximum true vapor pressure of total organic HAP at storage temperature.

TABLE 2a. GROUP 1 STORAGE VESSELS AT NEW SOURCES PRODUCING RESINS SPECIFICALLY LISTED IN §63.504(b) and (c)

Resin	Vessel Capacity (cubic meters)	Vapor Pressure[a] (kilopascals)
ASA/AMSAN[b,c]	≥ 38.6	alpha methyl styrene[d]
	≥ 3.78	styrene/acrylonitrile mixture[d]
	≥ 75.7	acrylonitrile[d]
SAN, continuous[e]	$\geq 2{,}271$	$0.5 \leq vp < 0.7$
	≥ 151	$0.7 \leq vp < 10$
	≥ 30 and < 151	$vp \geq 10$
	≥ 151	$vp \geq 10$
Nitrile[c,f]	≥ 13.25	acrylonitrile[d]
Polystyrene, continuous processes[g]	≥ 19.6 and < 45.4	$vp \geq 7.48$
	≥ 45.4 and < 109.8	$vp \geq 0.61$
	≥ 109.8	$vp \geq 0.53$
ABS, continuous mass[h]	≥ 45.43	styrene[d]
	≥ 38 and < 45.43	$vp \geq 13.1$
	≥ 45.43	$vp \geq 0.53$

FOOTNOTES TO TABLE 2a

[a]Maximum true vapor pressure of total organic HAP at storage temperature.
[b]As listed in §63.500(a)(1)(xv).
[c]The applicability criteria in Table 2 shall be used for chemicals not specifically listed in this table (Table 2a).
[d]Designated chemical in lieu of vapor pressure.
[e]As listed in §63.500(a)(1)(xiii).
[f]As listed in §63.500(a)(1)(xviii).
[g]As listed in §63.500(a)(1)(v).
[h]As listed in §63.500(a)(1)(ix).

TABLE 3. BATCH PROCESS VENT VOLATILITY CLASSES

Vent Volatility Class	WAVP[a] (kilopascals)
low	< 10
moderate	$10 \leq vp < 20$
high	≥ 20

[a] Weighted average vapor pressure of batch process vent.

TABLE 4. OPERATING PARAMETERS FOR WHICH LEVELS ARE REQUIRED TO BE ESTABLISHED FOR PROCESS VENTS

Control/Recovery device	Parameters to be monitored	Established operating parameter(s)
Thermal incinerator	Firebox temperature	minimum temperature
Catalytic incinerator	Temperature upstream and downstream of the catalyst bed	minimum upstream temperature - and - minimum temperature difference across the catalyst bed
Boiler or process heater	Firebox temperature	minimum temperature
Scrubber for halogenated vents	pH of scrubber effluent and scrubber liquid and gas flow rates	minimum pH - and - minimum liquid/gas ratio
Absorber	Exit temperature of the absorbing liquid - and - exit specific gravity	minimum temperature - and - minimum specific gravity
Condenser	Exit temperature	maximum temperature
Carbon absorber	Total regeneration stream mass flow during carbon bed regeneration cycle - and - temperature of the carbon bed after regeneration (and within 15 minutes of completing any cooling cycle(s))	maximum mass flow - and - maximum temperature
Other recovery devices	HAP concentration level at outlet of recovery device[a]	maximum HAP concentration[a]

[a]Concentration is measured instead of an operating parameter.

TABLE 5. GROUP 1 BATCH PROCESS VENTS --
MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

Control/ Recovery Device	Parameter to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Thermal Incinerator	Firebox temperature[a]	1. Continuous records[b] 2. Record and report the average firebox temperature measured during the performance test for all controlled batch emission episodes in the batch cycle - NCS[c] 3. Record the average firebox temperature for each batch cycle.[d] 4. Report all batch cycle daily average temperatures that are below the minimum operating temperature established in the NCS or operating permit and all instances when insufficient monitoring data are collected - PR[e]

TABLE 5. GROUP 1 BATCH PROCESS VENTS --
MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
(continued)

Control/ Recovery Device	Parameter to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Catalytic Incinerator	Temperature upstream and downstream of the catalyst bed	1. Continuous records 2. Record and report the average upstream and downstream temperatures measured during the performance test, and the average temperature difference across the catalyst bed for all controlled batch emission episodes in the batch cycle - NCS 3. Record the average upstream temperature and temperature difference across catalyst bed for each batch cycle.[d] 4. Report all batch cycle average upstream temperatures that are below the minimum upstream temperature established in the NCS or operating permit - PR 5. Report all batch cycle daily average temperature differences across the catalyst bed that are below the minimum difference established in the NCS or operating permit - PR 6. Report all instances when insufficient monitoring data are collected[e]

TABLE 5. GROUP 1 BATCH PROCESS VENTS --
MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
(continued)

Control/ Recovery Device	Parameter to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Boiler or Process Heater with a design heat input capacity less than 44 megawatts and Vent Stream is <u>not</u> introduced with or as the primary fuel	Firebox temperature[a]	1. Continuous records[b] 2. Record and report the average firebox temperature measured during the performance test for all controlled batch emission episodes in the batch cycle - NCS[c] 3. Record the average firebox temperature for each batch cycle.[d] 4. Report all batch cycle daily average temperatures that are below the minimum operating temperature established in the NCS or operating permit and all instances when insufficient monitoring data are collected[e] - PR[f]
Flare	Presence of a flame at the pilot light	1. Hourly records of whether the monitor was continuously operating during controlled batch emission episodes and whether the pilot flame was continuously present during each hour 2. Record and report the presence of a flame at the pilot light over the full period of the compliance determination - NCS 3. Record the times and durations of all periods during controlled batch emission episodes when a pilot flame is absent or the monitor is not operating 4. Report the times and durations of all periods during batch emission episodes when all pilot flames of a flare are absent - PR

TABLE 5. GROUP 1 BATCH PROCESS VENTS --
MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
(continued)

Control/ Recovery Device	Parameter to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Scrubber for Halogenated Vents (Note: Controlled by a combustion device other than a flare)	pH of scrubber effluent, and	1. Continuous records 2. Record and report the average pH of the scrubber effluent measured during the performance test for all controlled batch emission episodes in the batch cycle - NCS 3. Record the average pH of the scrubber effluent for each batch cycle 4. Report all batch cycle daily average pH values of the scrubber effluent that are below the minimum operating pH established in the NCS or operating permit and all instances when insufficient monitoring data are collected - PR
Scrubber for Halogenated Vents (Note: Controlled by a combustion device other than a flare) (Continued)	Scrubber liquid and gas flow rates	1. Continuous records 2. Record and report the scrubber liquid/gas ratio measured during the performance test for all controlled batch emission episodes in the batch cycle - NCS 3. Record the average scrubber liquid/gas ratio for each batch cycle 4. Report all batch cycle daily average scrubber liquid/gas ratios that are below the minimum operating ratio established in the NCS or operating permit and all instances when insufficient monitoring data are collected - PR

TABLE 5. GROUP 1 BATCH PROCESS VENTS --
MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
(continued)

Control/ Recovery Device	Parameter to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Absorber[g]	Exit temperature of the absorbing liquid, and	1. Continuous records 2. Record and report the average exit temperature of the absorbing liquid measured during the performance test for all controlled batch emission episodes in the batch cycle - NCS 3. Record the average exit temperature of the absorbing liquid for each batch cycle 4. Report all the batch cycle daily average exit temperatures of the absorbing liquid that are below the minimum operating temperature established in the NCS or operating permit and all instances when insufficient monitoring data are collected - PR
Absorber[g] (continued)	Exit specific gravity	1. Continuous records 2. Record and report the average exit specific gravity measured during the performance test for all controlled batch emission episodes in the batch cycle - NCS 3. Record the average exit specific gravity for each batch cycle 4. Report all batch cycle daily average exit specific gravity values that are below the minimum operating temperature established in the NCS or operating permit and all instances when insufficient data are collected - PR

TABLE 5. GROUP 1 BATCH PROCESS VENTS --
MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
(continued)

Control/ Recovery Device	Parameter to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Condenser[g]	Exit (product side) temperature	1. Continuous records 2. Record and report the average exit temperature measured during the performance test for all controlled batch emission episodes in the batch cycle - NCS 3. Record the average exit temperature for each batch cycle 4. Report all batch cycle daily average exit temperatures that are above the maximum operating temperature established in the NCS or operating permit and all instances when insufficient data are collected - PR
Carbon Adsorber[g]	Total regeneration stream mass flow during carbon bed regeneration cycle(s), and	1. Record of total regeneration stream mass flow for each carbon bed regeneration cycle 2. Record and report the total regeneration stream mass flow during each carbon bed regeneration cycle during the performance test - NCS 3. Report all carbon bed regeneration cycles when the total regeneration stream mass flow is above the maximum mass flow rate established in the NCS or operating permit - PR

TABLE 5. GROUP 1 BATCH PROCESS VENTS --
MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
(continued)

Control/ Recovery Device	Parameter to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Carbon Adsorber[g] (Continued)	Temperature of the carbon bed after regeneration [and within 15 minutes of completing any cooling cycle(s)]	1. Records of the temperature of the carbon bed after each regeneration 2. Record and report the temperature of the carbon bed after each regeneration during the performance test - NCS 3. Report all carbon bed regeneration cycles during which temperature of the carbon bed after regeneration is above the maximum temperature established in the NCS or operating permit - PR
All Recovery Devices (as an alternative to the above)	Concentration level or reading indicated by an organic monitoring device at the outlet of the recovery device	1. Continuous records 2. Record and report the average concentration level or reading measured during the performance test for all controlled batch emission episodes in the batch cycle - NCS 3. Record the average concentration level or reading for each batch cycle 4. Report all batch cycle daily average concentration levels or readings that are above the maximum concentration established in the NCS or operating permit and all instances when insufficient data are collected - PR

TABLE 5. GROUP 1 BATCH PROCESS VENTS --
MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
(concluded)

Control/ Recovery Device	Parameter to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
All Control and Recovery Devices	Presence of flow diverted to the atmosphere from the control device <u>or</u>	1. Hourly records during controlled batch emission episodes of whether the flow indicator was operating and whether flow was detected at any time during each hour. 2. Record and report the times and durations of all periods during controlled batch emission episodes when the vent stream is diverted through a bypass line or the monitor is not operating - PR
	Monthly inspections of sealed valves	1. Records that monthly inspections were performed 2. Record and report all monthly inspections that show the valves are not closed or the seal has been changed - PR

TABLE 5. GROUP 1 BATCH PROCESS VENTS --
MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
(footnotes)

[a] Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.

[b] "Continuous records" is defined in §63.111 of subpart G.

[c] NCS = Notification of Compliance Status described in §63.513(b)(5) of this subpart.

[d] The batch cycle average is the average of all recorded parameter values for all controlled batch emission episodes in the batch cycle. If all recorded values during a batch cycle are below/above the maximum/minimum operating parameter established in the NCS or operating permit, a statement to this effect can be recorded instead of the batch cycle average.

[e] The periodic reports shall include the duration of periods when monitoring data is not collected for each excursion as defined in §63.513(b)(6)(ii)(c) of this subpart.

[f] PR = Periodic Reports described in §63.513(b)(6) of this subpart.

[g] Alternatively, these devices may comply with the organic monitoring device provisions listed at the end of this table under "All Recovery Devices."

TABLE 6. APPLICABILITY OF GENERAL PROVISIONS TO SUBPART V AFFECTED SOURCES

Reference	Applies to Subpart V	Comment
§63.1	YES	
§63.2	YES	
§63.3	YES	
§63.4	YES	
§63.5(a)-(c)	YES	
§63.5(d)	YES	Except that the report shall contain the information in §63.513(b)(3) of this subpart, instead of that specified in §63.5(d)(1)(ii)(H), (d)(2), and (d)(3)(iii) of subpart A.
§63.5(e)-(f)	YES	
§63.6(a)-(e)	YES	
§63.6(f)	YES	Except that the requirements of §63.6(f)(2)(iii)(D) do not apply.
§63.6(g)	YES	
§63.6(h)	NO	
§63.6(i)-(j)	YES	
§63.7(a)(1) and (2)	NO	
§63.7(a)(3)	YES	
§63.7(b)	NO	
§63.7(c)	NO	
§63.7(d)	YES	
§63.7(e)	YES	Except that performance tests must be conducted at maximum representative operating conditions. In addition, some of the testing requirements specified in subpart V are not consistent with §63.7(e)(3).
§63.7(f)	NO	Subpart V specifies applicable methods and provides alternatives.
§63.7(g)	YES	Except that references to the Notification of Compliance Status requirements in §63.9(h) of subpart A are replaced with the requirements in §63.513(b)(5) of subpart V.
§63.7(h)	YES	Except that §63.7(h)(4)(ii) is not applicable, since the site-specific test plans in §63.7(c)(3) are not required.

TABLE 6. APPLICABILITY OF GENERAL PROVISIONS TO SUBPART V AFFECTED SOURCES (Continued)

Reference	Applies to Subpart V	Comment
§63.8	NO	
63.8(a)(1)	YES	
63.8(a)(2)	NO	
63.8(a)(3)	NO	
63.8(a)(4)	YES	
63.8(b)(1)	YES	
63.8(b)(2)	NO	Subparts V specifies locations to conduct monitoring.
63.8(b)(3)	YES	
63.8(c)(1)(i)	YES	
63.8(c)(1)(ii)	NO	Addressed by periodic reports in §63.513(b)(6) of subpart V.
63.8(c)(1)(iii)	YES	
63.8(c)(2)	YES	
63.8(c)(3)	YES	
63.8(c)(4)	NO	Monitoring frequency specified in §63.513(f) of subpart V.
63.8(c)(5) - (c)(8)	NO	
63.8(d)	NO	
63.8(e)	NO	
63.8(f)(1) - (f)(3)	YES	
63.8(f)(4)(i)	NO	Timeframe for submitting request specified in §63.513(e)(1) of subpart V.
63.8(f)(4)(ii)	YES	
63.8(f)(4)(iii)	NO	
63.8(f)(5)(i)	YES	
63.8(f)(5)(ii)	NO	
63.8(f)(5)(iii)	YES	
63.8(f)(6)	NO	Subpart V does not require CEM's.
63.8(g)	NO	Data reduction procedures specified in §63.513(f) of subpart V.
§63.9(a)	YES	
§63.9(b)	NO	
§639(c) and (d)	YES	
§63.9(e)	NO	

TABLE 6. APPLICABILITY OF GENERAL PROVISIONS TO SUBPART V AFFECTED SOURCES (Concluded)

Reference	Applies to Subpart V	Comment
§63.9(f)	NO	
§63.9(g)	NO	
§63.9(h)	NO	
§63.9(i)-(j)	YES	
§63.10(a)-(c)	YES	
§63.10(d)(1), (4), and (5)	YES	
§63.10(d)(2)-(3)	NO	
§63.10(e)	NO	
§63.10(f)	YES	
§63.11 - §63.15	YES	